

## SEQUENCE LISTING

<110> Probst, Peter  
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<120> COMPOSITIONS AND METHODS FOR TREATMENT AND  
 DIAGNOSIS OF CHLAMYDIAL INFECTION

<130> 210121.469C4

<140> US

<141> 1999-12-03

<160> 303

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<211> 481

<212> DNA

<213> Chlamydia trachomatis

<400> 1

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caaaataaga actctgtctt catgcagcct gtgaacgtat ccgctgattt agctgccatc	180
gttggtgcag gacctatgcc tcgcacagag atcattaaga aaatgtggga ttacattaag	240
gagaatagtc ttcaagatcc tacaaacaaa cgtaatatca atcccgatga taaattggct	300
aaagtttttg gaactgaaaa acctatcgat atgtttcaaa tgacaaaaat ggtttctcaa	360
cacatcatta aataaaatag aaattgactc acgtgttctt cgtctttaag atgaggaact	420
agttcattct ttttgttcgt ttttgtgggt attactgtat ctttaacaac tatcttagca	480
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<210> 2

<211> 183

<212> DNA

<213> Chlamydia trachomatis

<400> 2

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aaggagaata gtcttcaaga tctacaaaac aaacgtaata tcaatcccga tgataaattg	120
gctaaagttt ttggaactga aaaacctatc gatatgttcc aatgacaaa aatggtttct	180
caa	183

<210> 3

<211> 110

<212> DNA

<213> Chlamydia trachomatis

<400> 3

gctgcgacat catgcgagct tgcaaaccaa catggacatc tcaatttcc ccttctaact	60
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cgctctttgg aactaatgct gctaccgagt caatcacaat cacatcgacc

110

<210> 4

<211> 555

<212> DNA

<213> Chlamydia trachomatis

<400> 4

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tagggccagc	tctttctaaa	gagattattg	ctagattgca	gttgaatccc	gaagctagag	180
ctgcagagtt	gactgaggaa	gaggttgggc	gactaaacgc	tcttttacag	tcggattacg	240
ttgttgaagg	ggatttgccg	cgtcgtgtgc	aatctgatat	caaacgtctg	attactatcc	300
atgcttatcg	tggaacaaaga	catagacttt	ctttgacctg	tcgtggtcag	agaacaaaaa	360
caaattctcg	cacgcgtaag	ggtaaacgta	aaactattgc	aggtagaag	aaataataat	420
ttttaggaga	gagtgttttg	gttaaaaatc	aagcgcaaaa	aagaggcgta	aaaagaaaac	480
aagtaaaaaa	cattccttcg	ggcggtgtcc	atgttaaggc	tacttttaat	aatacaattg	540
taaccataac	agacc					555

<210> 5

<211> 86

<212> PRT

<213> Chlamydia trachomatis

<400> 5

Met	Ser	Gln	Asn	Lys	Asn	Ser	Ala	Phe	Met	Gln	Pro	Val	Asn	Val	Ser
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Ala	Asp	Leu	Ala	Ala	Ile	Val	Gly	Ala	Gly	Pro	Met	Pro	Arg	Thr	Glu
		20						25					30		
Ile	Ile	Lys	Lys	Met	Trp	Asp	Tyr	Ile	Lys	Glu	Asn	Ser	Leu	Gln	Asp
		35					40					45			
Pro	Thr	Asn	Lys	Arg	Asn	Ile	Asn	Pro	Asp	Asp	Lys	Leu	Ala	Lys	Val
		50				55					60				
Phe	Gly	Thr	Glu	Lys	Pro	Ile	Asp	Met	Phe	Gln	Met	Thr	Lys	Met	Val
65					70					75				80	
Ser	Gln	His	Ile	Ile	Lys										
				85											

<210> 6

<211> 61

<212> PRT

<213> Chlamydia trachomatis

<400> 6

Ile	Val	Gly	Ala	Gly	Pro	Met	Pro	Arg	Thr	Glu	Ile	Ile	Lys	Lys	Met
1					5				10					15	
Trp	Asp	Tyr	Ile	Lys	Glu	Asn	Ser	Leu	Gln	Asp	Pro	Thr	Asn	Lys	Arg
		20						25					30		
Asn	Ile	Asn	Pro	Asp	Asp	Lys	Leu	Ala	Lys	Val	Phe	Gly	Thr	Glu	Lys
		35				40					45				
Pro	Ile	Asp	Met	Phe	Gln	Met	Thr	Lys	Met	Val	Ser	Gln			
50					55					60					

<210> 7

<211> 36

<212> PRT

<213> Chlamydia trachomatis

<400> 7

Ala Ala Thr Ser Cys Glu Leu Ala Asn Gln His Gly His Leu Gln Phe  
 1 5 10 15  
 Pro Leu Leu Thr Arg Ser Leu Glu Leu Met Leu Leu Pro Ser Gln Ser  
 20 25 30  
 Gln Ser His Arg  
 35

<210> 8

<211> 18

<212> PRT

<213> Chlamydia trachomatis

<400> 8

Leu Arg His His Ala Ser Leu Gln Thr Asn Met Asp Ile Ser Asn Phe  
 1 5 10 15  
 Pro Phe

<210> 9

<211> 5

<212> PRT

<213> Chlamydia trachomatis

<400> 9

Leu Ala Leu Trp Asn  
 1 5

<210> 10

<211> 11

<212> PRT

<213> Chlamydia trachomatis

<400> 10

Cys Cys Tyr Arg Val Asn His Asn His Ile Asp  
 1 5 10

<210> 11

<211> 36

<212> PRT

<213> Chlamydia trachomatis

<400> 11

Val Asp Val Ile Val Ile Asp Ser Val Ala Ala Leu Val Pro Lys Ser  
 1 5 10 15  
 Glu Leu Glu Gly Glu Ile Gly Asp Val His Val Gly Leu Gln Ala Arg  
 20 25 30  
 Met Met Ser Gln  
 35

<210> 12

<211> 122

&lt;212&gt; PRT

&lt;213&gt; Chlamydia trachomatis

&lt;400&gt; 12

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Met Pro Arg Ile Ile Gly Ile Asp Ile Pro Ala Lys Lys Lys Leu Lys
 1      5      10      15
Ile Ser Leu Thr Tyr Ile Tyr Gly Ile Gly Pro Ala Leu Ser Lys Glu
      20      25      30
Ile Ile Ala Arg Leu Gln Leu Asn Pro Glu Ala Arg Ala Ala Glu Leu
      35      40      45
Thr Glu Glu Glu Val Gly Arg Leu Asn Ala Leu Leu Gln Ser Asp Tyr
      50      55      60
Val Val Glu Gly Asp Leu Arg Arg Arg Val Gln Ser Asp Ile Lys Arg
65      70      75      80
Leu Ile Thr Ile His Ala Tyr Arg Gly Gln Arg His Arg Leu Ser Leu
      85      90      95
Pro Val Arg Gly Gln Arg Thr Lys Thr Asn Ser Arg Thr Arg Lys Gly
      100      105      110
Lys Arg Lys Thr Ile Ala Gly Lys Lys Lys
      115      120

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&lt;210&gt; 13

&lt;211&gt; 20

&lt;212&gt; PRT

&lt;213&gt; Chlamydia trachomatis

&lt;400&gt; 13

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Asp Pro Thr Asn Lys Arg Asn Ile Asn Pro Asp Asp Lys Leu Ala Lys
 1      5      10      15
Val Phe Gly Thr
      20

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&lt;210&gt; 14

&lt;211&gt; 20

&lt;212&gt; PRT

&lt;213&gt; Chlamydia trachomatis

&lt;400&gt; 14

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Asp Asp Lys Leu Ala Lys Val Phe Gly Thr Glu Lys Pro Ile Asp Met
 1      5      10      15
Phe Gln Met Thr
      20

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&lt;210&gt; 15

&lt;211&gt; 161

&lt;212&gt; DNA

&lt;213&gt; Chlamydia trachomatis

&lt;400&gt; 15

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atctttgtgt gtctcataag cgcagagcgg ctgcggctgt ctgtagcttc atcggaggaa 60
ttacctacct cgcgacattc ggagctatcc gtccgattct gttgtcaac aaaatgctgg 120
cgcaaccgtt tctttcttcc caaactaaag caaatatggg a 161

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&lt;210&gt; 16

&lt;211&gt; 897

&lt;212&gt; DNA

&lt;213&gt; Chlymidia trachomatis

&lt;400&gt; 16

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atggccttcta tatgcgagcg tttaggggtct ggtacagggga atgctctaaa agctttttttt 60
acacagccca acaataaaat ggcaagggta gtaaataaga cgaaggggaat ggataagact 120
attaaggttg ccaagtctgc tgccgaattg accgcaaata ttttggaaaca agctggaggc 180
gcgggctctt ccgcacacat tacagcttcc caagtgtcca aaggattagg ggatgcgaga 240
actgttgctg ctttagggaa tgcccttaac ggagcgttgc caggaacagt tcaaagtgcg 300
caaagcttct tctctcacat gaaagctgct agtcagaaaa cgcaagaagg ggatgagggg 360
ctcacagcag atcttttgtg gtctcataag cgcagagcgg ctgcggtgtg ctgtagcatc 420
atcggaggaa ttacctacct cgcgacattc ggagctatcc gtccgattct gtttgtcaac 480
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agctatatta tggcggctaa ccattgcagcg tctgtggtgg gtgctggact cgctatcagt 600
gcggaaaagag cagattgcga agcccgtctg gctcgtattg cgagagaaga gtcgttactc 660
gaagtgcggg gagaggaaaa tgcttgccag aagaaagtcg ctggagagaa agccaagacg 720
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gagcttttca aattggtgcc gctgcctatt acaatgggta ttcgtgcgat tgtggtgct 840
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&lt;210&gt; 17

&lt;211&gt; 298

&lt;212&gt; PRT

&lt;213&gt; Chlamydia trachomatis

&lt;400&gt; 17

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Met Ala Ser Ile Cys Gly Arg Leu Gly Ser Gly Thr Gly Asn Ala Leu
1      5      10      15
Lys Ala Phe Phe Thr Gln Pro Asn Asn Lys Met Ala Arg Val Val Asn
20     25     30
Lys Thr Lys Gly Met Asp Lys Thr Ile Lys Val Ala Lys Ser Ala Ala
35     40     45
Glu Leu Thr Ala Asn Ile Leu Glu Gln Ala Gly Gly Ala Gly Ser Ser
50     55     60
Ala His Ile Thr Ala Ser Gln Val Ser Lys Gly Leu Gly Asp Ala Arg
65     70     75     80
Thr Val Val Ala Leu Gly Asn Ala Phe Asn Gly Ala Leu Pro Gly Thr
85     90     95
Val Gln Ser Ala Gln Ser Phe Phe Ser His Met Lys Ala Ala Ser Gln
100    105    110
Lys Thr Gln Glu Gly Asp Glu Gly Leu Thr Ala Asp Leu Cys Val Ser
115    120    125
His Lys Arg Arg Ala Ala Ala Val Cys Ser Ile Ile Gly Gly Ile
130    135    140
Thr Tyr Leu Ala Thr Phe Gly Ala Ile Arg Pro Ile Leu Phe Val Asn
145    150    155    160
Lys Met Leu Ala Lys Pro Phe Leu Ser Ser Gln Thr Lys Ala Asn Met
165    170    175
Gly Ser Ser Val Ser Tyr Ile Met Ala Ala Asn His Ala Ala Ser Val
180    185    190
Val Gly Ala Gly Leu Ala Ile Ser Ala Glu Arg Ala Asp Cys Glu Ala
195    200    205
Arg Cys Ala Arg Ile Ala Arg Glu Glu Ser Leu Leu Glu Val Pro Gly
210    215    220
Glu Glu Asn Ala Cys Glu Lys Lys Val Ala Gly Glu Lys Ala Lys Thr

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225                      230                      235                      240  
 Phe Thr Arg Ile Lys Tyr Ala Leu Leu Thr Met Leu Glu Lys Phe Leu  
                                  245                      250                      255  
 Glu Cys Val Ala Asp Val Phe Lys Leu Val Pro Leu Pro Ile Thr Met  
                                  260                      265                      270  
 Gly Ile Arg Ala Ile Val Ala Ala Gly Cys Thr Phe Thr Ser Ala Ile  
                                  275                      280                      285  
 Ile Gly Leu Cys Thr Phe Cys Ala Arg Ala  
                                  290                      295

<210> 18

<211> 18

<212> PRT

<213> Chlamydia trachomatis

<400> 18

Arg Ala Ala Ala Ala Ala Val Cys Ser Phe Ile Gly Gly Ile Thr  
 1                      5                      10                      15  
 Tyr Leu

<210> 19

<211> 18

<212> PRT

<213> Chlamydia trachomatis

<400> 19

Cys Ser Phe Ile Gly Gly Ile Thr Tyr Leu Ala Thr Phe Gly Ala Ile  
 1                      5                      10                      15  
 Arg Pro

<210> 20

<211> 216

<212> PRT

<213> Chlamydia trachomatis

<400> 20

Met Arg Gly Ser Gln Gln Ile Phe Val Cys Leu Ile Ser Ala Glu Arg  
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 Leu Arg Leu Ser Val Ala Ser Ser Glu Glu Leu Pro Thr Ser Arg His  
                                  20                      25                      30  
 Ser Glu Leu Ser Val Arg Phe Cys Leu Ser Thr Lys Cys Trp Gln Asn  
                                  35                      40                      45  
 Arg Phe Phe Leu Pro Lys Leu Lys Gln Ile Trp Asp Leu Leu Leu Ala  
                                  50                      55                      60  
 Ile Leu Trp Arg Leu Thr Met Gln Arg Leu Trp Trp Val Leu Asp Ser  
 65                      70                      75                      80  
 Leu Ser Val Arg Lys Glu Gln Ile Ala Lys Pro Ala Ala Leu Val Leu  
                                  85                      90                      95  
 Arg Glu Lys Ser Arg Tyr Ser Lys Cys Arg Glu Arg Lys Met Leu Ala  
                                  100                      105                      110  
 Arg Arg Lys Ser Leu Glu Arg Lys Pro Arg Arg Ser Arg Ala Ser Ser  
                                  115                      120                      125  
 Met His Ser Ser Leu Cys Ser Arg Ser Phe Trp Asn Ala Leu Pro Thr

130                      135                      140  
 Phe Ser Asn Trp Cys Arg Cys Leu Leu Gln Trp Val Phe Val Arg Leu  
 145                      150                      155                      160  
 Trp Leu Leu Asp Val Arg Ser Leu Leu Gln Leu Leu Asp Cys Ala Leu  
                          165                      170                      175  
 Ser Ala Pro-Glu His Lys Gly Phe Phe Lys Phe Leu Lys Lys Lys Ala  
                          180                      185                      190  
 Val Ser Lys Lys Lys Gln Pro Phe Leu Ser Thr Lys Cys Leu Ala Phe  
                          195                      200                      205  
 Leu Ile Val Lys Ile Val Phe Leu  
                          210                      215

<210> 21

<211> 1256

<212> DNA

<213> Chlamydia trachomatis

<400> 21

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caagctctca	aatccttgct	ttgaataatc	cagatatttc	aaaaaccatg	ttcgataaat	180
tcacccgaca	aggactccgt	ttcgtagtag	aagcctctgt	atcaaattatt	gaggatatag	240
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ctataggacg	ccgtttgaat	acagaaaata	ttggcttgga	taaagctggg	gttatttgtg	360
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ctattggaga	tatcacagga	aaatggcaac	ttgcccattg	agcttctcat	caaggaatca	480
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agatttagat	agagcttggt	tagcaggtaa	actgggttat	atgttgctgg	gcgtgttagt	1140
tctagaatac	ccaagtgtcc	tccagggtgt	aatactcgat	acacttccct	aagagcctct	1200
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<210> 22

<211> 601

<212> DNA

<213> Chlamydia trachomatis

<400> 22

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caagctctca	aatccttgct	ttgaataatc	cagatatttc	aaaaaccatg	ttcgataaat	180
tcacccgaca	aggactccgt	ttcgtagtag	aagcctctgt	atcaaattatt	gaggatatag	240
gagatcgctg	tcggttaact	atcaatggga	atgtcgaaga	atacgattac	gttctcgtat	300
ctataggacg	ccgtttgaat	acagaaaata	ttggcttgga	taaagctggg	gttatttgtg	360
atgaacgcgg	agtcacccct	accgatgcc	caatgcgcac	aaacgtacct	aacatttatg	420
ctattggaga	tatcacagga	aaatggcaac	ttgcccattg	agcttctcat	caaggaatca	480
ttgcagcacg	gaatataggt	ggccataaag	aggaaatcga	ttactctgct	gtcccttctg	540

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a 601

<210> 23

<211> 270

<212> DNA

<213> Chlamydia trachomatis

<400> 23

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cacttgcgag gaggagggcg tctggaagac cagttgaatt tagctaagtt ttctgagcgt 120  
tttgattcct tgcgagaatt atccgctaag cttggttacg atagcgatgg agagactggg 180  
gatttcttca acgaggagta cgacgacgaa gaagaggaaa tcaaaccgaa gaaaactacg 240  
aaacgtggac gtaagaagag cgtttcataa 270

<210> 24

<211> 363

<212> DNA

<213> Chlamydia trachomatis

<400> 24

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gcgtaaatgc gctgcatgaa agattgcttc gagagcggca tcgcgtggga gatcccggt 120  
actttcttct agatacgaat aagcatagct gttcccagaa taaaaacggc cgacgctagg 180  
aacaacaaga tttagataga gcttggtgtag caggtaaact gggttatatg ttgctgggcg 240  
tgttagtctt agaataccca agtgcctcc aggttgtaat actcgatata cttccctaag 300  
agcctctaatt ggataggata agttccgtaa tccataggcc atagaagcta aacgaaacgt 360  
att 363

<210> 25

<211> 696

<212> DNA

<213> Chlamydia trachomatis

<400> 25

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atcggttgcg aattcgcttc cttattccat acgttaggct ccgaagtttc tgtgatcgaa 120  
gcaagctctc aaatccttgc tttgaataat ccagatattt caaaaacat gttcgataaa 180  
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tctataggac gccgtttgaa tacagaaaat attggcttgg ataaagctgg tgttatttgt 360  
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gtgatcttta cttccctga agtcgcttca gtaggcctct cccaacagc agtcaacaa 600  
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acttgcgagg aggagggcgt ctggaagacc agttga 696

<210> 26

<211> 231

<212> PRT

<213> Chlamydia trachomatis

<400> 26

Ala Arg Ala Gly Thr Ser Lys Glu Ile Pro Gln Lys Met Ala Ile Ile

1                      5                      10                      15  
 Gly Gly Gly Val Ile Gly Cys Glu Phe Ala Ser Leu Phe His Thr Leu  
                             20                      25                      30  
 Gly Ser Glu Val Ser Val Ile Glu Ala Ser Ser Gln Ile Leu Ala Leu  
                             35                      40                      45  
 Asn Asn Pro Asp Ile Ser Lys Thr Met Phe Asp Lys Phe Thr Arg Gln  
                             50                      55                      60  
 Gly Leu Arg Phe Val Leu Glu Ala Ser Val Ser Asn Ile Glu Asp Ile  
                             65                      70                      75                      80  
 Gly Asp Arg Val Arg Leu Thr Ile Asn Gly Asn Val Glu Glu Tyr Asp  
                             85                      90                      95  
 Tyr Val Leu Val Ser Ile Gly Arg Arg Leu Asn Thr Glu Asn Ile Gly  
                             100                      105                      110  
 Leu Asp Lys Ala Gly Val Ile Cys Asp Glu Arg Gly Val Ile Pro Thr  
                             115                      120                      125  
 Asp Ala Thr Met Arg Thr Asn Val Pro Asn Ile Tyr Ala Ile Gly Asp  
                             130                      135                      140  
 Ile Thr Gly Lys Trp Gln Leu Ala His Val Ala Ser His Gln Gly Ile  
                             145                      150                      155                      160  
 Ile Ala Ala Arg Asn Ile Gly Gly His Lys Glu Glu Ile Asp Tyr Ser  
                             165                      170                      175  
 Ala Val Pro Ser Val Ile Phe Thr Phe Pro Glu Val Ala Ser Val Gly  
                             180                      185                      190  
 Leu Ser Pro Thr Ala Ala Gln Gln His Leu Leu Leu Arg Leu Leu Phe  
                             195                      200                      205  
 Leu Lys Asn Leu Ile Gln Lys Lys Asn Ser Ser His Thr Cys Glu Glu  
                             210                      215                      220  
 Glu Gly Val Trp Lys Thr Ser  
                             225                      230

&lt;210&gt; 27

&lt;211&gt; 264

&lt;212&gt; DNA

&lt;213&gt; Chlamydia pneumoniae

&lt;400&gt; 27

atgagtc aaa aaaaataaaaa ctctgctttt atgcatcccg tgaatatttc cacagattta. 60  
 gcagttatag ttggcaaggg acctatgccc agaaccgaaa ttgtaaagaa agtttgggaa. 120  
 tacattaaaa aacacaactg tcaggatcaa aaaaataaac gtaatattct tcccgatgcy 180  
 aatcttgcca aagtctttgg ctctagtgat cctatcgaca tgttccaaat gaccaaagcc 240  
 ctttccaaac atattgtaaa ataa 264

&lt;210&gt; 28

&lt;211&gt; 87

&lt;212&gt; PRT

&lt;213&gt; Chlamydia pneumoniae

&lt;400&gt; 28

Met Ser Gln Lys Asn Lys Asn Ser Ala Phe Met His Pro Val Asn Ile  
 1                      5                      10                      15  
 Ser Thr Asp Leu Ala Val Ile Val Gly Lys Gly Pro Met Pro Arg Thr  
                             20                      25                      30  
 Glu Ile Val Lys Lys Val Trp Glu Tyr Ile Lys Lys His Asn Cys Gln  
                             35                      40                      45  
 Asp Gln Lys Asn Lys Arg Asn Ile Leu Pro Asp Ala Asn Leu Ala Lys

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<210> 29
<211> 369
<212> DNA
<213> Chlamydia pneumoniae
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<210> 30
<211> 122
<212> PRT
<213> Chlamydia pneumoniae
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<210> 31
<211> 10
<212> PRT
<213> Artificial Sequence
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<400> 31  
 Cys Ser Phe Ile Gly Gly Ile Thr Tyr Leu  
 1 5 10

<210> 32  
 <211> 53  
 <212> PRT  
 <213> Chlamydia trachomatis

<400> 32  
 Leu Cys Val Ser His Lys Arg Arg Ala Ala Ala Val Cys Ser Phe  
 1 5 10 15  
 Ile Gly Gly Ile Thr Tyr Leu Ala Thr Phe Gly Ala Ile Arg Pro Ile  
 20 25 30  
 Leu Phe Val Asn Lys Met Leu Ala Gln Pro Phe Leu Ser Ser Gln Thr  
 35 40 45  
 Lys Ala Asn Met Gly  
 50

<210> 33  
 <211> 161  
 <212> DNA  
 <213> Chlamydia trachomatis

<400> 33  
 atctttgtgt gtctcataag cgcagagcgg ctgcggctgt ctgtagcatt atcggaggaa 60  
 ttacctacct cgcgacattc ggagctatcc gtccgattct gtttgtcaac aaaatgctgg 120  
 caaaaccgtt tctttcttcc caaactaaag caaatatggg a 161

<210> 34  
 <211> 53  
 <212> PRT  
 <213> Chlamydia trachomatis

<400> 34  
 Leu Cys Val Ser His Lys Arg Arg Ala Ala Ala Val Cys Ser Ile  
 1 5 10 15  
 Ile Gly Gly Ile Thr Tyr Leu Ala Thr Phe Gly Ala Ile Arg Pro Ile  
 20 25 30  
 Leu Phe Val Asn Lys Met Leu Ala Lys Pro Phe Leu Ser Ser Gln Thr  
 35 40 45  
 Lys Ala Asn Met Gly  
 50

<210> 35  
 <211> 55  
 <212> DNA  
 <213> Chlamydia pneumoniae

<400> 35  
 gatatacata tgcataacca tcaccatcac atgagtcaaa aaaaataaaa actct 55

<210> 36  
 <211> 33  
 <212> DNA  
 <213> Chlamydia pneumoniae

<400> 36  
 ctcgaggaat tcttatttta caatatgttt gga 33

<210> 37  
 <211> 53  
 <212> DNA  
 <213> Chlamydia pneumoniae

<400> 37  
 gatatacata tgcatacaca tcaccatcac atgccacgca tcattggaat gat 53

<210> 38  
 <211> 30  
 <212> DNA  
 <213> Chlamydia pneumoniae

<400> 38  
 ctcgaggaat tcttatttct tcttacctgc 30

<210> 39  
 <211> 16  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in the lab

<400> 39  
 Lys Arg Asn Ile Asn Pro Asp Asp Lys Leu Ala Lys Val Phe Gly Thr  
 1 5 10 15

<210> 40  
 <211> 16  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> made in the lab

<400> 40  
 Lys Arg Asn Ile Leu Pro Asp Ala Asn Leu Ala Lys Val Phe Gly Ser  
 1 5 10 15

<210> 41  
 <211> 15  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> made in the lab

<400> 41  
 Lys Glu Tyr Ile Asn Gly Asp Lys Tyr Phe Gln Gln Ile Phe Asp  
 1 5 10 15

<210> 42

<211> 16  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> made in the lab

<400> 42  
 Lys Lys Ile Ile Ile Pro Asp Ser Lys Leu Gln Gly Val Ile Gly Ala  
 1 5 10 15

<210> 43  
 <211> 15  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> made in the lab

<400> 43  
 Lys Lys Leu Leu Val Pro Asp Asn Asn Leu Ala Thr Ile Ile Gly  
 1 5 10 15

<210> 44  
 <211> 509  
 <212> DNA  
 <213> Chlamydia

<400> 44  
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 taccgtacgt gagattgctg tacaagtagc tggtatgtat ggttctagtt gcttactgcg 120  
 cgccgtgggc gatttagcga aaaatgattc ttctattcaa gtacgcatca ctgcttatcg 180  
 tgctgcagcc gtgttggaga tacaagatct tgtgcctcat ttacgagttg tagtccaaaa 240  
 tacacaatta gatggaacgg aaagaagaga agcttggaga tctttatgtg ttcttactcg 300  
 gcctcatagt ggtgtattaa ctggcataga tcaagcttta atgacctgtg agatgttaaa 360  
 ggaatatcct gaaaagtgtg cggagaaca gattcgtaca ttattggctg cagatcatcc 420  
 agaagtgcag gtagctactt tacagatcat tctgagagga ggtagagtat tccggtcatc 480  
 ttctataatg gaatcggttc tcgtgccgg 509

<210> 45  
 <211> 481  
 <212> DNA  
 <213> Chlamydia

<220>  
 <221> unsure  
 <222> (23)  
 <223> n=A,T,C or G

<400> 45  
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 aggtcttcta ataaggaagt taatgtaaga ggctttttta ttgcttttcg taaggtagta 120  
 ttgcaaccgc acgcgattga atgatacgca agccatttcc atcatggaaa agaacccttg 180  
 gacaaaaata caaaggaggt tcaactcctaa ccagaaaaag ggagagttag tttccatggg 240  
 ttttccttat atacaccctg ttcacacaat taggagccgc gtctagtatt tggaatacaa 300

attgtcccca agcgaatttt gttcctggtt cagggatttc tcttaattgt tctgtcagcc 360  
 atccgcctat ggtaacgcaa ttagctgtag taggaagatc aactccaaac aggtcataga 420  
 aatcagaaag ctcataggtg cctgcagcaa taacaacatt cttgtctgag tgagcgaatt 480  
 g 481

<210> 46  
 <211> 427  
 <212> DNA  
 <213> Chlamydia

<220>  
 <221> unsure  
 <222> (20)  
 <223> n=A,T,C or G

<400> 46  
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 ataacacaga tcaaagaacg gccattcagt ttaggctctg actcaacaaa acctatgtcc 120  
 tctaagccct gacacattct ttgaacaacc ttatgccctg gttcgggata agccaactct 180  
 cgccccgaa acatacaaga aacctttact ttatttctt tctcaataaa ggctctaget 240  
 tgctttgctt tcgtaagaaa gtcgttatca tcgatatag gcttaagctt aacctctttg 300  
 atacgcactt ggtgctgtgc tttcttacta tcttttctt ttttagttat gtcgtaacga 360  
 tacttcccgt agtccatgat tttgcacaca ggaggctctg agtttgaagc aacctcgtgc 420  
 cgaattc 427

<210> 47  
 <211> 600  
 <212> DNA  
 <213> Chlamydia

<220>  
 <221> unsure  
 <222> (522)  
 <223> n=A,T,C or G

<400> 47  
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 cagcttattc tagaaaagtt gggagatcaa attcttggtg gaattgctga tactattgtt 120  
 gatagtacag tccaagatat tttagacaaa atcacacag acccttctct aggtttgttg 180  
 aaagctttta acaactttcc aatcactaat aaaattcaat gcaacgggtt attcactccc 240  
 aggaacattg aaactttatt aggaggaact gaaataggaa aattcacagt cacacccaaa 300  
 agctctggga gcatgttctt agtctcagca gatattattg catcaagaat ggaaggcggc 360  
 gttgttctag ctttggtacg agaaggtgat tctaagccct acgcgattag ttatggatac 420  
 tcatcaggcg ttcttaattt atgtagtcta agaaccagaa ttattaatac aggattgact 480  
 ccgacaacgt attcattacg tgtaggcggg ttagaaaagcg gngtggtatg ggtaaatgcc 540  
 ctttctaata gcaatgatat tttaggaata acaaattctt taatgtatct tttttggagg 600

<210> 48  
 <211> 600  
 <212> DNA  
 <213> Chlamydia

<400> 48  
 ggagctcgaa ttcggcacga gctctatgaa tatccaattc tctaaactgt tcggataaaa 60  
 atgatgcagg aattaggtcc acactatctt tttttgtttc gcaaattgatt gatttttaaat 120

```

cgtttgatgt gtatactatg tcgtgtaagc ctttttggtt acttctgaca ctagccccc 180
atccagaaga taaattggat tgccgggtcta ggtcagcaag taacactttt tccctaaaa 240
attgggccaa gttgcatccc acgttttagag aaagtgttgt tttccagtt cctcccttaa 300
aagagcaaaa aactaagggtg tgcaaatcaa ctccaacgtt agagtaagtt atctattcag 360
ccttggaana catgtctttt ctagacaaga taagcataat caaagccttt tttagcttta 420
aactgttatc ctctaatttt- tcaagaacag gagagtctgg gaataatcct aaagagtgtt 480
ctatttggtg aagcagtcct agaattagtg agacactttt atggtagagt tctaaggagg 540
aatttaagaa agttactttt tccttgttta ctctgatttt taggtctaata tcgggggaaat 600

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<210> 49

<211> 600

<212> DNA

<213> Chlamydia

<400> 49

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gatccgaatt cggcacgaga tgcttctatt acaattgggtt tggatgcgga aaaagcttac 60
cagcttattc tagaaaagtt gggagatcaa attcttggtg gaattgctga tactattggt 120
gatagtacag tccaagatat tttagacaaa atcacaacag acccttctct aggtttgttg 180
aaagctttta acaacttttc aatcactaat aaaattcaat gcaacgggtt attcactccc 240
aggaacattg aaactttatt aggaggaact gaaataggaa aattcacagt cacacccaaa 300
agctctggga gcatgttctt agtctcagca gatattattg catcaagaat ggaaggcggc 360
gttgttctag ctttggtacg agaagggtgat tctaagccct acgcgattag ttatggatac 420
tcatcaggcg ttcctaattt atgtagtcta agaaccagaa ttattaatac aggattgact 480
ccgacaacgt attcattacg tgtaggcggt ttagaaagcg gtgtggtatg ggttaatgcc 540
ctttctaatt gcaatgatat tttaggaata acaataactt ctaatgtatc ttttttgag 600

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<210> 50

<211> 406

<212> DNA

<213> Chlamydia

<400> 50

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gatccgaatt cggcacgagt tcttagcttg cttaattacg taattaacca aactaaaggg 60
gctatcaaat agcttattca gtctttcatt agttaaacga tcttttctag ccatgactca 120
tcctatgttc ttcagctata aaaataactt ttaaaacttg atatgctgta atcaaatcat 180
cattaaccac aacataatca aattcgctag cggcagcaat ttcgacagcg ctatgctcta 240
atctttcttt cttctggaaa tctttctctg aatcccgagc attcaaacgg cgtcaagtt 300
cttcttgaga gggagcttga ataaaaatgt gactgccggc atttgcttct tcagagccaa 360
agctccttgt acatcaatca cggctatgca gtctcgtgcc gaattc 406

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<210> 51

<211> 602

<212> DNA

<213> Chlamydia

<400> 51

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ttgaaagctt ttaacaactt tccaatcact aataaaattc aatgcaacgg gttattcact 120
cccaggaaac ttgaaacttt attaggagga actgaaatag gaaaattcac agtcacaccc 180
aaaagctctg ggagcatgtt cttagtctca gcagatatta ttgcatcaag aatggaaggc 240
ggcgttggtc tagctttggt acgagaagggt gattctaagc cctacgcgat tagttatgga 300
tactcatcag gcgttcctaa tttatgtagt ctaagaacca gaattattaa tacaggattg 360
actccgacaa cgtattcatt acgtgtaggc ggtttagaaa gcggtgtggt atgggttaat 420
gccctttcta atggcaatga tatttttagga ataacaataa cttctaattg atcttttttg 480
gaggtaatat ctcaaacaaa cgcttaaaca atttttattg gatttttctt ataggtttta 540

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tatttagaga aaaaagttcg aattacgggg tttgttatgc aaaataaact cgtgccgaat 600  
tc 602

<210> 52

<211> 145

<212> DNA

<213> Chlamydia

<400> 52

gatccgaatt cggcaccgagc tcgtgccgat gtgttcaaca gcatccatag gatgggcagt 60  
caaatatact ccaagtaatt ctttttctct tttcaacaac tccttaggag agcggttgat 120  
aacattttca gctcgtgccg aattc 145

<210> 53

<211> 450

<212> DNA

<213> Chlamydia

<400> 53

gatccgaatt cggcaccgagg taatcggcac cgcactgctg acactcatct cctcgagctc 60  
gatcaaacc acacttgga caagtaccta caacataacg gtccgctaaa aacttccctt 120  
cttcctcaga atacagctgt tcggtaacct gattctctac cagtcgcggt tctgcaagt 180  
ttcgatagaa atcttgaca atagcaggat gataagcgtt cgtagtcttg gaaaagaaat 240  
ctacagaaat tcccaatttc ttgaaggat ctttatgaag cttatgatac atgtcgacat 300  
attcttgata ccccatgcct gccaaactctg cattaagggt aattgcgatt ccgtattcat 360  
cagaaccaca aatatacaaa acctctttgc cttgtagtct ctgaaaacgc gcataaacat 420  
ctgcaggcaa ataagcctcg tgccgaattc 450

<210> 54

<211> 716

<212> DNA

<213> Chlamydia

<400> 54

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acttttgcct agagaggcac actatactaa gaagtttctt ggggtgtgtg cacagtcctg 120  
tcgtcagggg attctgctag aggggtaggg gaaaaaacc ttattactat gaccatgagc 180  
atgtggaatt acattccata gactttcgca tcattcccaa catttacaca gctctacacc 240  
tcttaagaag aggtgacgtg gattgggtgg ggcagccttg gcaccaaggg attccttttg 300  
agcttcggac tacctctgct ctctacaccc attaccctgt agatggcaca ttctggctta 360  
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ccatccaaaa ggaaaaactg gtgaagcaag ctttaggaac acaatatga gtagctgaaa 480  
gctctccatc tccagaggga atcatagctc atcaagaagc ttctactcct tttcctggga 540  
aaattacttt gatatatccc aataatatta cgcgctgtca gcgtttggcc gaggtatcca 600  
aaaaatgatc gacaaggagc acgctaaatt tgtacatacc ccaaaatcaa tcagccatct 660  
aggcaaatgg aatatcaaag taaacagtat acaactgggg atctcgtgcc gaattc 716

<210> 55

<211> 463

<212> DNA

<213> Chlamydia trachomatis

<400> 55

tctcaaatcc ttgctttgaa taatccagat atttcaaaaa ccatgttcga taaattcacc 60  
cgacaaggac tccgtttcgt actagaagcc tctgtatcaa atattgagga tataggagat 120

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cgcgttcggg taactatcaa tgggaatgtc gaagaatagc attacgttct cgtatctata 180
ggacgccggt tgaatacaga aaatattggc ttggataaag ctggtgttat ttgtgatgaa 240
cgcgaggatca tccctaccga tgccacaatg cgcacaaacg tacctaacat ttatgctatt 300
ggagatatca caggaaaatg gcaacttgcc catgtagctt ctcataaagg aatcattgca 360
gcacggaata taggtggcca taaagaggaa atcgattact ctgctgtccc ttctgtgatc 420
tttaccttcc ctgaagtcgc ttcagtaggc ctctcccca cag 463

```

&lt;210&gt; 56

&lt;211&gt; 829

&lt;212&gt; DNA

&lt;213&gt; Chlamydia trachomatis

&lt;400&gt; 56

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gtactatggg atcattagtt ggaagacagg ctccggattt ttctggtaaa gccgttggtt 60
gtggagaaga gaaagaaatc tctctagcag actttcgtgg taagtatgta gtgctcttct 120
tttatcctaa agattttacc tatgtttgtc ctacagaatt acatgctttt caagatagat 180
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cacattctcg ttggctcact gttagcgagag atgcaggagg gatagaggga acagaatatc 300
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gatcgctcgc ttttaagagct actttcetta tcgataaaca tgggggttatt cgtcatgcgg 420
ttatcaatga tcttctctta gggcggtcca ttgacgagga attgctgatt ttagattcat 480
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gaatggtgcc ttctgaagag ggattaaaag aatacttcca gacgatggat taagcatctt 600
tgaaagtaag aaagtcgtac agatcttgat ctgaaaagag aagaaggctt tttaattttc 660
tgcagagagc cagcgaggct tcaataatgt tgaagtctcc gacaccaggc aatgctaagg 720
cgacgatatt agttagttaa gtctgagtat taaggaaatg aaggccaaag aaatagctat 780
caataaagaa gccttcttcc ttgactctaa agaatagtat gtcgtatcc 829

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&lt;210&gt; 57

&lt;211&gt; 1537

&lt;212&gt; DNA

&lt;213&gt; Chlamydia trachomatis

&lt;400&gt; 57

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acatcaagaa atagcggact cgcttttagt gaaaaaagct gaggagcaga ttaatcaagc 60
acaacaagat attcaaacga tcacacctag tgggttggat attcctatcg ttgggtccgag 120
tgggtcagct gcttccgcag gaagtgcggc aggagcgttg aaatcctcta acaattcagg 180
aagaatttcc ttgttgcttg atgatgtaga caatgaaatg gcagcgattg caatgcaagg 240
ttttcgatct atgatcgaac aatttaatgt aaacaatcct gcaacagcta aagagctaca 300
agctatggag gctcagctga ctgcgatgtc agatcaactg gttggtgagg atggcgagct 360
cccagccgaa atacaagcaa tcaaagatgc tcttgcgcaa gctttgaaac aaccatcagc 420
agatggttta gctacagcta tgggacaagt ggcttttgca gctgccaaag ttggaggagg 480
ctccgcagga acagctggca ctgtccagat gaatgtaaaa cagctttaca agacagcgtt 540
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aacactgaac tctttatatt ccgaaagcag aagcggcgtg cagtcagcta ttagtcaaac 660
tgcaaatccc gcgctttcca gaagcgtttc tcgttctggc atagaaagtc aaggacgcag 720
tgcagatgct agccaaagag cagcagaaac tattgtcaga gatagccaaa cgttagggtga 780
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ggctcttttt tcttttcaa ggaatctcgt gtctacagaa gtcttttcaa taataagttc 1200
ttagttccaa aagaagaaaa tatataaaag aaaaaactcc taattcattt aaaaagtgtc 1260

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cggcagactt cgtggaaaat gtctgtaaaag ctggagggga atcagcagaa agatgcaaga 1320
tatccgagaa aaaaggctca ggctcgtgcc gaattcggca cgagactacg aaagaaaagg 1380
cttttctttc ggaatctgtc attggatctg cgtaagactt aaagtccggc aacacaggct 1440
ctgtcttttc tttaggtttc ttgcgcgaga aaaattttct caagtaacaa gaagatttct 1500
ttttacagcc ggcattccggc ttctcgcgaa gtataac 1537

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<210> 58

<211> 463

<212> DNA

<213> Chlamydia trachomatis

<400> 58

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tctcaaattc ttgctttgaa taatccagat atttcaaaaa ccatgttcga taaattcacc 60
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cgcgttcggg taactatcaa tgggaatgtc gaagaatacg attacgttct cgtatctata 180
ggacgccggt tgaatacaga aaatattggc ttggataaag ctgggtgttat ttgtgatgaa 240
cgcggagtca tccctaccga tgccacaatg cgcacaacg tacctaacat ttatgctatt 300
ggagatatca caggaaaatg gcaacttgcc catgtagctt etcatcaagg aatcattgca 360
gcacggaata taggtggcca taaagaggaa atcgattact ctgctgtccc ttctgtgatc 420
tttaccttcc ctgaagtcgc ttcagtaggc ctctcccaaa cag 463

```

<210> 59

<211> 552

<212> DNA

<213> Chlamydia trachomatis

<400> 59

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acggaatttt acacgtttct gctaaagatg ctgctagtgg acgcgaacaa aaaatccgta 120
ttgaagcaag ctctggatta aaagaagatg aaattcaaca atgatccgc gatgcagagc 180
ttcataaaga ggaagacaaa caacgaaaag aagcttctga tgtgaaaaat gaagccgatg 240
gaatgatctt tagagccgaa aaagctgtga aagattacca cgacaaaatt cctgcagaac 300
ttgttaaaga aattgaagag catattgaga aagtacgcca agcaatcaaa gaagatgctt 360
ccacaacagc tatcaaagca gcttctgatg agttgagtac tcgtatgcaa aaaatccgag 420
aagctatgca ggctcaatcc gcatccgcag cagcatcttc tgcagcgaat gctcaaggag 480
ggccaaacat taactccgaa gatctgaaaa aacatagttt cagcacacga cctccagcag 540
gaggaagcgc ct 552

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<210> 60

<211> 1180

<212> DNA

<213> Chlamydia trachomatis

<400> 60

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atcctagcgg taaaactgct tactggtcag ataaaaatcca tacagaagca acacgtactt 60
cttttaggag aaaaaatcta taatgctaga aaaatcctga gtaaggatca cttctcctca 120
acaacttttt catcttggat agagttagtt tttagaacta agtcttctgc ttacaatgct 180
cttgcatatt acgagctttt tataaacctc cccaacaaaa ctctacaaaa agagtttcaa 240
tcgatccctt ataaatccgc atatttttg gccgctagaa aaggcgattt aaaaaccaag 300
gtcgatgtga tagggaaagt atgtggaatc tcgtgcgcaa ttcggcacga gcggcacgag 360
gatgtagagt aattagttaa agagctgcat aattatgaca aagcatggaa aacgcattcg 420
tggtatccaa gagacttacg atttagctaa gtcgtattct ttgggtgaag cgatagatat 480
tttaaaacag tgtcctactg tgcgtttcga tcaaacggtt gatgtgtctg ttaaatagg 540
gatcgatcca agaaagagt atcagcaaat tcgtggttcg gtttctttac ctcacggtac 600
aggtaaagtt ttgcgaattt tagtttttgc tgctggagat aaggctgcag aggctattga 660

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agcaggagcg gactttgttg gtagcgacga cttggtagaa aaaatcaaag gtggatgggt 720
tgacttcgat gttgcggttg ccaactccga tatgatgaga gaggtcggaa agctaggaaa 780
agtttttaggt ccaagaaacc ttatgcctac gcctaaagcc ggaactgtaa caacagatgt 840
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tgtatgcaac gtcggagttg cgaagctttc tttcgatagt gcgcaaatca aagaaaatgt 960
tgaagcgttg tgtgcagcct tagttaaagc taagcccga actgctaaag gacaatattt 1020
agttaatttc actatttcct cgaccatggg gccaggggtt accgtggata ctaggggagt 1080
gattgcgtta taattctaag tttaaagagg aaaaatgaaa gaagagaaaa agttgctgct 1140
tcgcgaggtt gaagaaaaga taaccgcttc tcggcacgag 1180

```

<210> 61

<211> 1215

<212> DNA

<213> Chlamydia trachomatis

<400> 61

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attccttata gggtcagttc ctagaggccc aggaatggag agaagagatc ttctaaagaa 120
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tatcgagag acgatagcgg atcgatgatt gttagagaat attatgggtc cttctgtaca 480
gagtcgtggt agtgcagtaa ttgaagcacg agggaagtct tcggcagctt ctgcagcacg 540
agcttttagca gaggtgctc gatcaatata tcagccaaaa gaaggactcg tgccgaattc 600
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ggtacagact tgagctctca aaagtttgct acagattctt acatcgaga cctttattct 720
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tgccctctc gccgttatac ttatggggca gacccttgcg ctccggcccg agagttcaag 1140
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catacaggct ttgaa 1215

```

<210> 62

<211> 688

<212> DNA

<213> Chlamydia trachomatis

<400> 62

```

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catgccgcac atccgcttct tcatgttctg tgaaatatgc atagtcttca ggattggaaa 180
atccaaagta ctacgtcaat ccacgaattt tctctctagc gatacgtgga atttgactct 240
cataagaata caaacagcc actcctgcag ctaaaagaatc tctgtacac caccgcata 300
aagtagctac tttcgctttt gctgttcac taggctcatg agcctctaac tctctggag 360
taactcctag agcaaacaca aactgcttcc acaaatcaat atgattaggg taaccgttct 420
cttcatccat caagttatct aacaataact tacgcgcctc taaatcatcg caacgactat 480
gaatcgcaga taaatattha ggaaaggctt tgatatgtaa ataatagtct ttggcacgag 540
cctgtaattg ctcttttaga agctccccct tcgaccattt cacataaaac gtgtgttcta 600
gcatatgctt attttgaata attaaatcta actgatctaa aaaattcata aacacctcca 660

```

tcattttcttt tcttgactcc acgtaacc

688

<210> 63

<211> 269

<212> DNA

<213> Chlamydia trachomatis

<400> 63

atgttgaaat	cacacaagct	gttcctaaat	atgctacggt	aggatctccc	tatcctggtg	60
aaattactgc	tacaggtaaa	agggattgtg	ttgatgttat	cattactcag	caattaccat	120
gtgaagcaga	gttcgtacgc	agtgatccag	cgacaactcc	tactgctgat	ggtaagctag	180
tttggaaaaa	tgaccgctta	ggacaaggcg	aaaagagtaa	aattactgta	tgggtaaaac	240
ctcttaaaqa	agqttgctgc	tttacagct				269

<210> 64

<211> 1339

<212> DNA

<213> Chlamydia trachomatis

<400> 64

cttttattat	ggcttctggg	gatgatgtca	acgatatcga	cctgctatct	cgaggagatt	60
ttaaaattgt	tatacagacg	gctccagagg	agatgcattg	attagcggac	tttttggctc	120
ccccggcgaa	ggatcttggg	attctctccg	cctgggaagc	tggtagctg	cgttacaaac	180
agctagttaa	tccttaggaa	acatttctgg	acctatgcc	atcacattgg	ctccgtgatc	240
cacatagaga	gtttctcccc	taattgcgct	agctagggga	gagactaaga	aggctgctgc	300
tgcgctact	tgctcagctt	ccattggaga	aggtagtgga	gcccagctct	ggtagtaatc	360
caccattctc	tcaataaaatc	caatagcttt	tcctgcacgg	ctagctaattg	gccctgccga	420
gatagtattc	actcggactc	cccaacgtcg	gucggcttc	caaggcagta	cttttgtatc	480
acttttctaa	gcagcttttg	ctgcgttcat	tcctccgccca	taccctggaa	cagcacgcat	540
ggaagcaaga	taagcttagag	agatgggtgc	agctcctgca	ttcataattg	ggccaaaatg	600
agagagaagg	ctgataaagg	agtagctgga	tgtacttaag	gcggcaagat	agcctttacg	660
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aagatctttg	taacgtttat	tttccaaaat	ttcctgagga	atatcttctg	gggtgtcgaa	840
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agatgcattg	aattttccta	actcccaaga	ttgagagaaa	attttataga	taggaacca	960
ggtccccaca	agtatggttg	cgctgcttc	tgctaacatt	ttggcaatgc	cccagccata	1020
cccgttatca	tcgctatgc	cggctatgaa	agcaattttt	cctgttaaat	caattttcaa	1080
catgagctaa	ccccattttg	tcttcttgag	agaggagagt	agcagattct	ttattattga	1140
gaaacggggc	tcataataca	taaggagtag	attcactggc	tggatccagg	tttctagagt	1200
aaagagtttc	cttgtcaaat	tcttatatgg	gtagagttaa	tcaactgttt	tcaagtgtat	1260
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tgaaaaaacag	gtttttatat					1339

<210> 65

<211> 195

<212> PRT

<213> Chlamydia trachomatis

<400> 65

Met Gly Ser Leu Val Gly Arg Gln Ala Pro Asp Phe Ser Gly Lys Ala  
                    5                        10                             15

Val	Val	Cys	Gly	Glu	Glu	Lys	Glu	Ile	Ser	Leu	Ala	Asp	Phe	Arg	Gly
			20					25					30		

Lys Tyr Val Val Leu Phe Phe Tyr Pro Lys Asp Phe Thr Tyr Val Cys  
 35 40 45

Pro Thr Glu Leu His Ala Phe Gln Asp Arg Leu Val Asp Phe Glu Glu  
 50 55 60

His Gly Ala Val Val Leu Gly Cys Ser Val Asp Asp Ile Glu Thr His  
 65 70 75 80

Ser Arg Trp Leu Thr Val Ala Arg Asp Ala Gly Gly Ile Glu Gly Thr  
 85 90 95

Glu Tyr Pro Leu Leu Ala Asp Pro Ser Phe Lys Ile Ser Glu Ala Phe  
 100 105 110

Gly Val Leu Asn Pro Glu Gly Ser Leu Ala Leu Arg Ala Thr Phe Leu  
 115 120 125

Ile Asp Lys His Gly Val Ile Arg His Ala Val Ile Asn Asp Leu Pro  
 130 135 140

Leu Gly Arg Ser Ile Asp Glu Glu Leu Arg Ile Leu Asp Ser Leu Ile  
 145 150 155 160

Phe Phe Glu Asn His Gly Met Val Cys Pro Ala Asn Trp Arg Ser Gly  
 165 170 175

Glu Arg Gly Met Val Pro Ser Glu Glu Gly Leu Lys Glu Tyr Phe Gln  
 180 185 190

Thr Met Asp  
 195

<210> 66

<211> 520

<212> DNA

<213> Chlamydia

<400> 66

gatccgaatt cggcaccgagg aggaatggaa gggccctccg attttaaatc tgctaccatg 60  
 ccattcacta gaaactccat aacagcgggt ttctctgatg gcgagtaaga agcaagcatt 120  
 tgatgtaaatt tagcgcaatt agagggggat gaggttactt ggaaatataa ggagcgaagc 180  
 gatgaaggag atgtatttgc tctggaagca aaggtttctg aagctaacag aacattgcgt 240  
 cctccaacaa tcgcctgagg attctggctc atcagttgat gctttgcctg aatgagagcg 300  
 gacttaagtt tcccatcaga gggagctatt tgaattagat aatcaagagc tagatccttt 360  
 attgtgggat cagaaaattt acttgtgagc gcatcgagaa ttctgtcaga agaagaatca 420  
 tcacgaacg aatttttcaa tcctcgaaaa tcttctccag agacttcgga aagatcttct 480  
 gtgaaacgat cttcaagagg agtatcgctt ttttcctctg 520

<210> 67

<211> 276

<212> DNA

<213> Chlamydia

gatcgaatt	cggcacgagc	agaacgtaaa	cagcacactt	aaaccgtgta	tgaggtttaa	60
cactgtttgg	caagcaaaca	accattcctc	tttccacatc	gttcttacca	atacctctga	120
ggagcaattcc	aacattttct	cctgcacgac	cttctgggag	ttctttttctg	aacatttcaa	180
ccccagtaac	aatcgtttct	ttagtatctc	taagaccgac	caactggaact	ttatcggaaa	240
ctttaacaat	tccacqctca	atacgtccaq	ttactacaqt	tcctcqtccq	qaqatagaqa	300

acacgtcctc aatgggcatt aag

323

&lt;210&gt; 71

&lt;211&gt; 715

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 71

```

gatccgaatt cggcagcagg aaaaaaagat tctctaacca ttataatatc tgtgatttat 60
gacccatcaa cataaaaaaa tcagcgaaga aacaatcgcc tgtgacatgc tagagcggct 120
ataccggctc taccattcaa gagttccagc cctatctcct tcttactaat tttgggtatt 180
acgtggatgt tttcgctgaa atctatcagg tccctgtttc tcgaggatcc atgttttcgg 240
gcagcgcacg cgctcaaat tcacacctca atcatcgatt tttaaattagg ctctccagga 300
gcagctctta ccgtagatct gtgttctttc cttcccaatg ctacagcagc gatcatgttg 360
ggcatgtgcg gaggtttaag atcccactac caaataggag attattttgt ccctgttgct 420
agcatccgaa aagatggaac atcagatgca tacttcccc cagaggtccc tgcattagct 480
aattttgtcg tacaataaat gatcaccaat attctcgaag ccaaaaaacct cccttaccat 540
ataggcatca cccacacgac taacattcgg ttttgggagt ttaataaaga gttcggtcga 600
aaactatatg aaaataaagc tcaaaactgtc gagatggagt gtgccacctt atttgctgca 660
ggataccgaa ggaatcttcc tttaggagca cttttgctga tatcgatct acctt 715

```

&lt;210&gt; 72

&lt;211&gt; 641

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (550)

&lt;223&gt; n=A,T,C or G

&lt;221&gt; unsure

&lt;222&gt; (559)

&lt;223&gt; n=A,T,C or G

&lt;221&gt; unsure

&lt;222&gt; (575)

&lt;223&gt; n=A,T,C or G

&lt;221&gt; unsure

&lt;222&gt; (583)

&lt;223&gt; n=A,T,C or G

&lt;221&gt; unsure

&lt;222&gt; (634)

&lt;223&gt; n=A,T,C or G

&lt;221&gt; unsure

&lt;222&gt; (638)

&lt;223&gt; n=A,T,C or G

&lt;400&gt; 72

```

gatccgaatt cggcagcaga tctcctcgag ctcgatcaaa cccacacttg ggacaagtac 60
ctacaacata acggtccgct aaaaacttcc cttcttcttc agaatacagc tgttcgggtca 120
cctgattctc taccagtcg cggttcctgca agtttcgata gaaatcttgc acaatagcag 180
gatgataagc gttcgtagtt ctggaaaaga aatctacaga aattcccaat ttcttgaagg 240
tatctttatg aagcttatga tacatgtcga catattcttg ataccccatg cctgccaaact 300
ctgcattaag ggtaattgcg attccgtatt catcagaacc acaaataac aaaacctctt 360
tgcctttagt tctctgaaaa cgcgcataaa catctgcagg caaataagca ccggtaatat 420
gtccaaaatg caaaggacca tttgcgtaag gcaacgcaga agtaataaga atacgggaag 480

```

```

attccactat ttcacgtcgc tccagttgta cagagaagga tcttttcttc tggatgttcc 540
gaaaccttgn tctcttcgnc tctctcctgt agcanacaaa tgnctctctc gacatctctt 600
tcagcgtatt cggactgatg ccctaaagat cccnggangt t 641

```

```

<210> 73
<211> 584
<212> DNA
<213> Chlamydia

```

```

<220>
<221> unsure
<222> (460)
<223> n=A,T,C or G
<221> unsure
<222> (523)
<223> n=A,T,C or G
<221> unsure
<222> (541)
<223> n=A,T,C or G
<221> unsure
<222> (546)
<223> n=A,T,C or G

```

```

<400> 73
gaattcggca cgagacattt ctagaatgga accggcaaca aacaaaaact ttgtatctga 60
agatgacttt aagcaatctt tagatagggg agattttttg gaatgggtct ttttatttgg 120
gacttattac ggaacgagta aggcggagat ttctagagtt ctgcaaaagg gtaagcactg 180
catagccgtg attgatgtac aaggagcttt ggctctgaag aagcaaatgc cggcagtcac 240
tatttttatt caagctccct ctcaagaaga acttgagcgc cgtttgaatg ctctgggattc 300
agagaaagat ttccagaaga aagaaagatt agagcatagc gctgtcgaaa ttgctgccgc 360
tagcgaattt gattatgttg tggttaatga tgatttgatt acagcatatc aagttttaag 420
aagtattttt atagctgaag aacataggat gagtcatggn tagaaaagat cgtttaacta 480
atgaaagact gaataagcta tttgatagcc cctttagttt ggntaattac gtaattaagc 540
nagctnagaa caaaattgct agaggagatg ttcgttcttc taac 584

```

```

<210> 74
<211> 465
<212> DNA
<213> Chlamydia

```

```

<400> 74
gatccgaatt cggcaccgagc tcgtgccggt tgggatcgtg taatcgcata ggagaatggg 60
taagaaatta ttttcgagtg aaagagctag gcgtaatcat tacagatagc catactactc 120
caatgcggcg tggagtactg ggtatcgggc tgtgttggtg tggattttct ccattacaca 180
actatatagg atcgctagat tgtttcgggc gtcccttaca gatgacgcaa agtaatcttg 240
tagatgcctt agcagttgcg gctgttggtt gtatgggaga ggggaatgag caaacaccgt 300
tagcggtgat agagcaggca cctaatatgg tctaccattc atatcctact tctcgagaag 360
agtattgttc tttgcgcata gatgaaacag aggacttata cggacctttt ttgcaagcgg 420
ttaccgtgga gtcaagaaaa gaaatgatgg aggtgtttat gaatt 465

```

```

<210> 75
<211> 545
<212> DNA
<213> Chlamydia

```

&lt;400&gt; 75

```

gaattcggca cgagatgaaa agtttagcgtc acaggggatt ctcctaccaa agaattccga 60
aaagttttct tccaaaaacc tcttcctctc ttgatttagt atccctctgc aactacttta 120
ctatatgttc tgtgaaatat gcatagtctt caggattgga aaatccaaag tactcagtca 180
atccacgaat tttctctcta gcgatacgtg gaatttgact ctcataagaa tacaaagcag 240
ccactcctgc agctaaagaa tctcctgtac accaccgcat gaaagtagct actttcgctt 300
ttgctgcttc actaggctca tgagcctcta actcttctgg agtaactcct agagcaaaca 360
caaaactgctt ccacaaatca atatgattag ggtaaccgtt ctcttcatcc atcaagttat 420
ctaacaataa cttacgcgcc tctaaatcat cgcaacgact atgaatcgca gataaatatt 480
taggaaaggc tttgatatgt aaataatagt ctttggcata cgcctgtaat tgctctttag 540
taagc 545

```

&lt;210&gt; 76

&lt;211&gt; 797

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (788)

&lt;223&gt; n=A,T,C or G

&lt;221&gt; unsure

&lt;222&gt; (789)

&lt;223&gt; n=A,T,C or G

&lt;400&gt; 76

```

gatccgaatt cggcaccgaga tacgctagat gcgataaatg cggataatga ggattatcct 60
aaaccagggtg acttcccacg atcttccctc tctagtacgc ctcctcatgc tccagtacct 120
caatctgaga ttccaacgtc acctacctca acacagcctc catcaccta acttgtaaaa 180
actgtaataa aaagagcgcg ctctcctttat gcaaaatcaa tttgaacaac tcttactga 240
attagggact caaatcaaca gccctcttac tcttgattcc aataatgcct gtatagttcg 300
ctttggatac aacaatgttg ctgtacaaat tgaagaggat ggtaattcag gatttttagt 360
tgctggagtc atgcttgga aacttccaga gaataccttt agacaaaaaa ttttcaaagc 420
tgctttgtct atcaatggat ctccgcaatc taatatataa ggcaactctag gatacgggtg 480
aatctctaac caactctatc tctgtgatcg gcttaacatg acctatctaa atggagaaaa 540
gctcgcccgt tacttagttc ttttttcgca gcatgccaat atctggatgc aatctatctc 600
aaaaggagaa cttccagatt tacatgctct aggtatgtat cacctgtaaa ttatgccgtc 660
attatcccaa tcccgcagta tcatccagca atcttccatt cgaaagattt ggaatcagat 720
agatacttct cctaagcatg ggggtatgcy taccggttat ttttctcttc atactcaaaa 780
aaagttgnng ggaata 797

```

&lt;210&gt; 77

&lt;211&gt; 399

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 77

```

catatgcatc accatcacca tcacatgcc a cgcattcattg gaattgatat tcttgcaaag 60
aaaaagttaa aaataagtct gacatatatt tatggaatag gatcagctcg ttctgatgaa 120
atcattaaaa agttgaagtt agatcctgag gcaagagcct ctgaattaac tgaagaagaa 180
gtaggacgac tgaactctct gctacaatca gaataatccg tagaagggga tttgcgacgt 240
cgtgttcaat cgatatcaa aagattgatc gccatccatt cttatcgagg tcagagacat 300
agactttctt taccagtaag aggacaacgt acaaaaaacta attctcgtac tcgaaaagg 360
aaaagaaaaa cagtcgcagg taagaagaaa taagaattc 399

```

<210> 78  
 <211> 285  
 <212> DNA  
 <213> Chlamydia

<400> 78

```

atgcatcacc atcaccatca catgagtcaa aaaaataaaa actctgcttt tatgcatccc 60
gtgaatatTT ccacagattt agcagttata gttggcaagg gacctatgcc cagaaccgaa 120
attgtaaaga aagtttgagg atacattaaa aaacacaact gtcaggatca aaaaaataaa 180
cgtaatatcc ttcccgatgc gaatcttgcc aaagtctttg gctctagtga tctatcgac 240
atgttccaaa tgaccaaagc cctttccaaa catattgtaa aataa 285

```

<210> 79  
 <211> 950  
 <212> DNA  
 <213> Chlamydia

<400> 79

```

aaattaactc gagcacaat tacggcaatt gctgagcaaa agatgaagga catggatgtc 60
gttcttttag agtccgccga gagaatgggt gaagggactg cccgaagcat ggggtgtagat 120
gtagagtaat tagttaaaga gctgcataat tatgacaaag catggaaaac gcattcgtgg 180
tatccaagag acttacgatt tagctaagtc gtattctttg ggtgaagcga tagatatttt 240
aaaacagtgt cctactgtgc gtttcgatca aacgggttgat gtgtctgtta aattaggggat 300
cgatccaaga aagagtgtac agcaaattcg tgggtcgggt tctttacctc acggtacagg 360
taaagttttg cgaatttttag tttttgctgc tggagataag gctgcagagg ctattgaagc 420
aggagcggac tttgttggtg gcgacgactt ggtagaaaaa atcaaagggt gatgggttga 480
cttcgatggt gcggttgcca ctcccgatat gatgagagag gtcggaaagc taggaaaagt 540
tttaggtcca agaaacctta tgccatcgcc taaagccgga actgtaacaa cagatgtggt 600
taaaactatt gcggaactgc gaaaaggtaa aattgaattt aaagctgatc gagctgggtg 660
atgcaacgtc ggagttgcga agctttcttt cgatagtgcg caaatcaaag aaaatggtga 720
agcgttggtg gcagccttag ttaaagetaa gcccgcact gctaaaggac aatatttagt 780
taatttcact atttctcga ccatggggcc aggggttacc gtggatacta gggagttgat 840
tgcgttataa ttctaagttt aaagaggaaa aatgaaagaa gagaaaaagt tgctgcttcg 900
cgagggtgaa gaaaagataa ccgcttctca aggttttatt ttgttgagat 950

```

<210> 80  
 <211> 395  
 <212> DNA  
 <213> Chlamydia

<400> 80

```

tttcaaggat tttgttttcc cgatcatctt actaaatgca gctccaacaa tcacatcatg 60
ggctggttta gcatctaagg caacagaagc tctctgctg taataagtga attcttcaga 120
agtaggtggt cctacttgcg atagcatcgt tcttagtctt gatatccaca gggttggtata 180
gctaacttca tcaaagcgag ctagattcat tttatcgttg agcaagcctt gtttgactgt 240
gaccattgac atttgagatc ccagaatcga gttcgcgatg aatgattgt ctctaggtac 300
ataagcccat tgtctataag agtcaaattt ccagagcgct gagatcgttc cattttgtag 360
ttgatcagga tccagagtga gtgttctctg atatc 395

```

<210> 81  
 <211> 2085  
 <212> DNA  
 <213> Chlamydia

<400> 81

```

atttggcgaa ggagtttggg ctacggctat taataaatca ttcgtgttcg ctgcctccaa 60
gaccagattg tgtactttct tatgaagaat ctccatttga gcaaattgtg cgttggggag 120
agtctcagtt agaacaattt gctcaagtag gtttagatac aagttggcaa gttgttttcg 180
atccaggaat aggatttggg aagactcccg ttcagtcgat gttattgatg gatggagtaa 240
agcagtttaa acgtgtttta gagtgtcctg tattaatagg ccattctaga aaatcgtgtt 300
tgagtatgtt gggccgattt aatagtgaag atcgtgattg ggaaacgatc ggctgttctg 360
tatctcttca tgatcgagga gttgattatc tacgtgtgca tcaggttgaa ggtaacagac 420
gtgccttagc cgtctgtgct tgggctggta tgtttgtatg atccaagcaa caggtatcgt 480
tgctattgat cccagaggag tgatgggagc tttaggcaag ctcccttggg gttatcccga 540
agatctacgt ttttttgcag aaaccattcg aaatcatccc atcattatgg gacgaaagac 600
ttgggagttc cttccagaca agtataagca tgggcgggat atcgttgtct tttctcgcag 660
gatgcatcca ccacaatgca taggagtttc ttcctttgca gagtatggga cactatcttt 720
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&lt;210&gt; 82

&lt;211&gt; 405

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 82

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gcaaaaaata aattagctcc tccattccga actgcagaat ttgat 405

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&lt;210&gt; 83

&lt;211&gt; 379

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 83

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 gaagcgttca tgaatttcc 379

&lt;210&gt; 84

&lt;211&gt; 715

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 84

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 aagctttttc cgcattccaaa ccaattgtbaa tagaagcatt ggttgatgga ttattggaga 480  
 ctggttaaaga tattccatca gaagctgtca ttttggtctg gacaggtgtt gatgttgtcc 540  
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 caaagacgca gttttgagtg ttatacaaat aaaaaccaga atttccatt ttaaaactct 660  
 tttttatttt gagctttaaa taaattaggt ttttagtttc aagtttgcta ttaat 715

&lt;210&gt; 85

&lt;211&gt; 476

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 85

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&lt;210&gt; 86

&lt;211&gt; 1551

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 86

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&lt;210&gt; 87

&lt;211&gt; 3031

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 87

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&lt;210&gt; 88

&lt;211&gt; 976

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 88

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&lt;210&gt; 89

&lt;211&gt; 94

&lt;212&gt; PRT

&lt;213&gt; Chlamydia

&lt;400&gt; 89

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 20 25 30  
 Lys Gly Pro Met Pro Arg Thr Glu Ile Val Lys Lys Val Trp Glu Tyr  
 35 40 45  
 Ile Lys Lys His Asn Cys Gln Asp Gln Lys Asn Lys Arg Asn Ile Leu  
 50 55 60  
 Pro Asp Ala Asn Leu Ala Lys Val Phe Gly Ser Ser Asp Pro Ile Asp  
 65 70 75 80  
 Met Phe Gln Met Thr Lys Ala Leu Ser Lys His Ile Val Lys  
 85 90  
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 <211> 474  
 <212> PRT  
 <213> Chlamydia  
 <400> 90  
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 35 40 45  
 Gly Thr Cys Leu Asn Arg Gly Cys Ile Pro Ser Lys Ala Leu Leu Ala  
 50 55 60  
 Gly Ala Glu Val Val Thr Gln Ile Arg His Ala Asp Gln Phe Gly Ile  
 65 70 75 80  
 His Val Glu Gly Phe Ser Ile Asn Tyr Pro Ala Met Val Gln Arg Lys  
 85 90 95  
 Asp Ser Val Val Arg Ser Ile Arg Asp Gly Leu Asn Gly Leu Ile Arg  
 100 105 110  
 Ser Asn Lys Ile Thr Val Phe Ser Gly Arg Gly Ser Leu Ile Ser Ser  
 115 120 125  
 Thr Glu Val Lys Ile Leu Gly Glu Asn Pro Ser Val Ile Lys Ala His  
 130 135 140  
 Ser Ile Ile Leu Ala Thr Gly Ser Glu Pro Arg Ala Phe Pro Gly Ile  
 145 150 155 160  
 Pro Phe Ser Ala Glu Ser Pro Arg Ile Leu Cys Ser Thr Gly Val Leu

165										170					175				
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Ile	Gly	Cys	Glu	Phe	Ala	Ser	Leu	Phe	His	Thr	Leu	Gly	Ser	Glu	Val				
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Ile	Ser	Lys	Thr	Met	Phe	Asp	Lys	Phe	Thr	Arg	Gln	Gly	Leu	Arg	Phe				
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Val	Leu	Glu	Ala	Ser	Val	Ser	Asn	Ile	Glu	Asp	Ile	Gly	Asp	Arg	Val				
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Arg	Leu	Thr	Ile	Asn	Gly	Asn	Val	Glu	Glu	Tyr	Asp	Tyr	Val	Leu	Val				
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Ser	Ile	Gly	Arg	Arg	Leu	Asn	Thr	Glu	Asn	Ile	Gly	Leu	Asp	Lys	Ala				
		275					280					285							
Gly	Val	Ile	Cys	Asp	Glu	Arg	Gly	Val	Ile	Pro	Thr	Asp	Ala	Thr	Met				
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Val	Ile	Phe	Thr	Phe	Pro	Glu	Val	Ala	Ser	Val	Gly	Leu	Ser	Pro	Thr				
		355					360					365							
Ala	Ala	Gln	Gln	Gln	Lys	Ile	Pro	Val	Lys	Val	Thr	Lys	Phe	Pro	Phe				
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			405					410					415						
Ile	Gly	Pro	His	Ala	Ser	Ser	Leu	Ile	Ser	Glu	Ile	Thr	Leu	Ala	Val				
		420					425						430						
Arg	Asn	Glu	Leu	Thr	Leu	Pro	Cys	Ile	Tyr	Glu	Thr	Ile	His	Ala	His				
	435						440					445							
Pro	Thr	Leu	Ala	Glu	Val	Trp	Ala	Glu	Ser	Ala	Leu	Leu	Ala	Val	Asp				
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Thr Pro Leu His Met Pro Pro Ala Lys Lys  
465 .470

<210> 91  
<211> 129  
<212> PRT  
<213> Chlamydia

<400> 91  
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Gly Ser Ala Arg Ser Asp Glu Ile Ile Lys Lys Leu Lys Leu Asp Pro  
35 40 45  
Glu Ala Arg Ala Ser Glu Leu Thr Glu Glu Glu Val Gly Arg Leu Asn  
50 55 60  
Ser Leu Leu Gln Ser Glu Tyr Thr Val Glu Gly Asp Leu Arg Arg Arg  
65 70 75 80  
Val Gln Ser Asp Ile Lys Arg Leu Ile Ala Ile His Ser Tyr Arg Gly  
85 90 95  
Gln Arg His Arg Leu Ser Leu Pro Val Arg Gly Gln Arg Thr Lys Thr  
100 105 110  
Asn Ser Arg Thr Arg Lys Gly Lys Arg Lys Thr Val Ala Gly Lys Lys  
115 120 125  
Lys

<210> 92  
<211> 202  
<212> PRT  
<213> Chlamydia

<400> 92  
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20 25 30  
Ser Leu Ala Asp Phe Arg Gly Lys Tyr Val Val Leu Phe Phe Tyr Pro  
35 40 45  
Lys Asp Phe Thr Tyr Val Cys Pro Thr Glu Leu His Ala Phe Gln Asp

50		55		60
Arg Leu Val Asp Phe Glu Glu His Gly Ala Val Val Leu Gly Cys Ser				
65		70		75 80
Val Asp Asp Ile Glu Thr His Ser Arg Trp Leu Thr Val Ala Arg Asp				
	85		90	95
Ala Gly Gly Ile Glu Gly Thr Glu Tyr Pro Leu Leu Ala Asp Pro Ser				
	100		105	110
Phe Lys Ile Ser Glu Ala Phe Gly Val Leu Asn Pro Glu Gly Ser Leu				
	115		120	125
Ala Leu Arg Ala Thr Phe Leu Ile Asp Lys His Gly Val Ile Arg His				
	130		135	140
Ala Val Ile Asn Asp Leu Pro Leu Gly Arg Ser Ile Asp Glu Glu Leu				
	145		150	155 160
Arg Ile Leu Asp Ser Leu Ile Phe Phe Glu Asn His Gly Met Val Cys				
	165		170	175
Pro Ala Asn Trp Arg Ser Gly Glu Arg Gly Met Val Pro Ser Glu Glu				
	180		185	190
Gly Leu Lys Glu Tyr Phe Gln Thr Met Asp				
	195		200	

<210> 93  
 <211> 19  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> made in a lab

<400> 93  
 Glu Asn Ser Leu Gln Asp Pro Thr Asn Lys Arg Asn Ile Asn Pro Asp  
 1 5 10 15  
 Asp Lys Leu

<210> 94  
 <211> 20  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 94  
 Asp Pro Thr Asn Lys Arg Asn Ile Asn Pro Asp Asp Lys Leu Ala Lys

<400> 98

Asn Lys Arg Asn Ile Asn Pro Asp Asp Lys Leu Ala Lys Val Phe Gly  
 1 5 10 15  
 Thr Glu Lys Pro  
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<210> 99  
 <211> 16  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 99  
 Asn Lys Arg Asn Ile Leu Pro Asp Ala Asn Leu Ala Lys Val Phe Gly  
 1 5 10 15

<210> 100  
 <211> 15  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 100  
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 1 5 10 15

<210> 101  
 <211> 20  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 101  
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 1 5 10 15  
 Gln Asp Gln Lys  
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<210> 102  
 <211> 20  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 102  
 Lys Val Trp Glu Tyr Ile Lys Lys His Asn Cys Gln Asp Gln Lys Asn  
 1 5 10 15  
 Lys Arg Asn Ile

20

<210> 103  
 <211> 15  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 103  
 Lys Val Trp Glu Tyr Ile Lys Lys His Asn Cys Gln Asp Gln Lys  
 1 5 10 15

<210> 104  
 <211> 20  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 104  
 Ala Glu Leu Thr Glu Glu Glu Val Gly Arg Leu Asn Ala Leu Leu Gln  
 1 5 10 15  
 Ser Asp Tyr Val  
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<210> 105  
 <211> 21  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 105  
 Leu Gln Ser Asp Tyr Val Val Glu Gly Asp Leu Arg Arg Arg Val Gln  
 1 5 10 15  
 Ser Asp Ile Lys Arg  
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<210> 106  
 <211> 20  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 106  
 Met Pro Arg Ile Ile Gly Ile Asp Ile Pro Ala Lys Lys Lys Leu Lys  
 1 5 10 15  
 Ile Ser Leu Thr  
 20

<210> 107  
 <211> 20  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 107  
 Ala Glu Leu Thr Glu Glu Val Gly Arg Leu Asn Ala Leu Leu Gln  
 1 5 10 15  
 Ser Asp Tyr Val  
 20

<210> 108  
 <211> 20  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 108  
 Leu Asn Ala Leu Leu Gln Ser Asp Tyr Val Val Glu Gly Asp Leu Arg  
 1 5 10 15  
 Arg Arg Val Gln  
 20

<210> 109  
 <211> 20  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 109  
 Leu Asn Ser Leu Leu Gln Ser Glu Tyr Thr Val Glu Gly Asp Leu Arg  
 1 5 10 15  
 Arg Arg Val Gln  
 20

<210> 110  
 <211> 1461  
 <212> DNA  
 <213> Chlamydia

<400> 110  
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 tgcctagaag cccatatacct actccacctt tgccttctag atatcagcta cagaatatgg 180  
 atgtagaagc agggttccgt gaggcagttt atgcttcttt tgtagcagga atgtacaatt 240  
 atgtagtgc acagccgcaa gagcgtattc ccaatagtca gcagggtggaa gggattctgc 300  
 gtgatatgct taccaacggg tcacagacat ttagcaacct gatgcagcgt tgggatagag 360

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aagtcgatag ggaataaact ggtatctacc ataggtttgt atcaaaaaac taagcccacc 420
aagaagaaat tctctttggt gggcttcttt ttttattcaa aaaagaaagc cctcttcaag 480
attatctcgt gccgctcgtg ccgaattcgg cagcagcggc acgaggagct gtaagtaagt 540
attgccaaga gttggaagaa aaaatattag atttgtgtaa gcgtcatgcc gcaacaattt 600
gctccattga ggaggatgct aaacaagaaa ttcgtcatca gacagaaagg tttaaacagc 660
ggttgcaaca aaatcagaac acttgcagtc aattaacagc agagttgtgt aaattgagat 720
ctgagaataa ggcattatcg gagcggctgc aggtgcaggc atcccgctcg aaaaaataat 780
taaagactcc tcagatattg catctgagag ttaggggttc cttttgctta cggcgcttta 840
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cgctggggta ttagcttttg ttttgtgcgc tagcaatgct atatttactg taataggtag 1140
tcctgcatta attattggat ctgcttgtgt ggggtgcggga atatctcgtc ttatgtatcg 1200
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tcttacggac gatctccaag ctttgggaag taaggtaatg gaatttgaga ttgattgttt 1380
ggacagatta gagaaaaatg agcaagcttt attgtccgat gtgcgcttag ttttatctag 1440
ctacacaaga tggttgata g
1461

```

&lt;210&gt; 111

&lt;211&gt; 267

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 111

```

gtcctcttct tattatagca gaagacattg aaggcgaagc tttagctact ttggctcgtga 60
acagaattcg tygaggattc cgggtttgct cagttaaagc tccaggcttt ggagatagaa 120
gaaaagctat gttggaagac atcgtatctt taactggcgg tcaactcatt agcgaagagt 180
tgggcatgaa attagaaaac gctaacttag ctatgttagg taaagctaaa aaagttatcg 240
tttctaaaaga agacacgacc atcgtcg
267

```

&lt;210&gt; 112

&lt;211&gt; 698

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 112

```

tgataagcaa gcaaccgctc aactagcagc tctaactatt aaaaaaatcc tctgttttga 60
tgaaaattcc tacgagaagg agctggcatg cttagaaaag aaacgcagta gcgtacaaaa 120
agatctgagc caactgaaaa aatacacagt tctctacatc aagaagctgc tcgaaaccta 180
cagacaactc gggcatcgaa agacaaaaat tgcaaaattt gatgacctac ctaccgagag 240
agtctccgct cataagaaag caaaagaact cgctgcgctc gatcaagaag agaacttcta 300
aaacgtgact cggcccttga gatccttaaa ctctcgggcc aaaaagacta cagtcttctc 360
gagaagaaaa acggtgttag aaaatacgcg cgctaagact ttctctaaca atgactcaaa 420
aagctgtaaa cgtatacggt taccgctctt ccataatttc taggctgact ttcacattat 480
ctcgacttgc tacggaaacc aataaaagtac ggatagcctt aatagtgcgt ccttctttac 540
cgataatttt accgatatct cccttagcaa cagtcaattc gtagataatc gtattggttc 600
cctgcacctc tttcagatgc acttctctct gcttatcaac aagatttttt acaatgtacg 660
ctaaaaactc tttcatgcga agcaaatcct acacaagc
698

```

&lt;210&gt; 113

&lt;211&gt; 1142

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 113

```

ctcttcaaag attgtgagtt tatgtgaagg cgctgtcgct gatgcaagaa tgtgcaaagc 60
agagttgata aaaaaagaag cggatgctta tttgttttgt gagaaaagcg ggatatatct 120
aacgaaaaaa gaaggtatth tgattccttc tgcagggtat gatgaatcga atacggacca 180
gcctttttgt ttatatccta aagatatttt gggatcgtgt aatcgcacg gagaatggtt 240
aagaaattat tttcgagtga aagagctagg cgtaatcatt acagatagcc atactactcc 300
aatgcggcgt ggagtactgg gtatcgggct gtgttggtat ggattttctc cattacacaa 360
ctatatagga tcgctagatt gtttcggtcg tcccttacag atgacgcaaa gtaatcttgt 420
agatgcctta gcagttgcgg ctgttggttg tatgggagag gggaaatgagc aaacaccgtt 480
agcggtgata gagcaggcac ctaatatggt ctaccattca taccctactt ctcgagaaga 540
gtattgttct ttgcgcatag atgaaacaga ggacttatac ggaccttttt tgcaagcggc 600
tacgtggagt caagaaaaga aatgatggag gtgtttatga attttttaga tcagttagat 660
ttaattattc aaaataagca tatgctagaa cacacgtttt atgtgaaatg gtcgaagggg 720
gagcttacta aagagcaatt acaggcgtat gccaaagact attatttaca tatcaaagcc 780
tttcctaaat atttatctgc gattcatagt cgttgcgatg atttagaggc gcgtaagtta 840
ttgttagata acttgatgga tgaagagaac ggttacccta atcatattga tttgtggaag 900
cagtttggtt ttgctctagg agttactcca gaagagttag aggcctatga gcctagttaa 960
gcagcaaaag cgaaagtagc tactttcatg cggtggtgta caggagattc tttagctgca 1020
ggagtggctg ctttgatttc ttatgagagt caaattccac gtatcgctag agagaaaatt 1080
cgtggattga ctgagtactt tggattttcc aatcctgaag actatgcata tttcacagaa 1140
ca

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1142

&lt;210&gt; 114

&lt;211&gt; 976

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 114

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aggtggatgg ggcgcctgtc caagatgtgc tcgctactct atatggaagc aatcacaaaag 60
ggactgcagc tgaagagtcg gctgctttaa gaacactatt ttctcgcagc gcctcttttag 120
ggcacaaaag accttctggg cgcactactt taaagattcg tcgtcctttt ggtactacga 180
gagaagttcg tgtgaaatgg cgttatgttc ctgaagggtg aggagatttg gctaccatag 240
ctccttctat cagggctcca cagttacaga aatcgatgag aagctttttc cctaagaaaag 300
atgatgcgtt tcatcggctt agttcgctat tctactctcc aatgggtccg catttttggg 360
cagagccttg caatcattat gcaacgagtg gtttgaaaag cgggtacaat attggggagta 420
ccgatgggtt tctccctgtc attgggcctg ttatatggga gtcggagggt cttttccgcg 480
cttatatttc ttcggtgact gatggggatg gtaagagcca taaagtagga tttctaagaa 540
ttcctacata tagttggcag gacatggaag attttgatcc ttcaggaccg cctccttggg 600
aagaatttgc taagattatt caagtatttt cttctaatac agaagctttg attatcgacc 660
aaacgaacaa cccaggtggg agtgcctttt atctttatgc actgctttcc atgttgacag 720
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tgggagacaa catggaagga tatactgtgg atctacaggt tgccgagtat ttaaaaagct 900
ttggacgtca agtattgaat tgttggagta aaggggatat cgagttatca acacctattc 960
ctcttttttg ttttga

```

976

&lt;210&gt; 115

&lt;211&gt; 995

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 115

```

ttatcctaga aatttggtgt tcaatatgag cgaaaaaaga aagtctaaca aaattattgg 60
tatcgaccta gggacgacca actcttgcgt ctctgttatg gaaggtggcc aacctaaagt 120

```

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tattgcctct tctgaaggaa ctctgtactac tctttctatc gttgctttta aaggtggcga 180
aactcttggt ggaattcctg caaaacgtca ggcagtaacc aatcctgaaa aaacattggc 240
ttctactaag cgattcatcg gtagaaaatt ctctgaagtc gaatctgaaa ttaaaacagt 300
ccctacaaaa gttgctccta actcgaaagg agatgcggtc tttgatgtgg aacaaaaact 360
gtacactcca gaagaaatcg gcgctcagat cctcatgaag atgaaggaaa ctgctgaggc 420
ttatctcgga gaaacagtta cggaaagcagt cattaccgta ccagcttact ttaacgattc 480
tcaaagagct tctacaaaag atgctggacg tatcgcagga ttagatgtta aacgcattat 540
tcctgaacca acagcggccg ctcttgctta tggattgat aaggaaggag ataaaaaat 600
cgccgtcttc gacttaggag gaggaacttt cgatatttct atcttgaaa tcggtgacgg 660
agtttttgaa gttctctcaa ccaacgggga tactcacttg ggaggagacg acttcgacgg 720
agtcatcatc aactggatgc ttgatgaatt caaaaaacaa gaaggcattg atctaagcaa 780
agataacatg gctttgcaaa gattgaaaga tgctgctgaa aaagcaaaaa tagaattgtc 840
tggtgtatcg tctactgaaa tcaatcagcc attcatcact atcgacgcta atggacctaa 900
acatttggtt ttaactctaa ctgcgcgctea attcgaacac ctagcttctt ctctcattga 960
gcgaacccaa caaccttggt ctccaggcttt aaaag 995

```

&lt;210&gt; 116

&lt;211&gt; 437

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 116

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gtcacagcta aaggcgggtgg gctttatact gataagaatc tttcgattac taacatcaca 60
ggaattatcg aaattgcaaa taacaaagcg acagatgttg gaggtgggtg ttacgtaaaa 120
ggaaccctta cttgtaaaaa ctctcaccgt ctacaatttt tgaaaaactc ttccgataaa 180
caaggtggag gaatctacgg agaagacaac atcaccctat ctaatttgac aggggaagact 240
ctattccaag agaatactgc caaaaaagag ggcgggtggac tcttcataaa aggtacagat 300
aaagctctta caatgacagg actggatagt ttctgtttaa ttaataacac atcagaaaaa 360
catggtgggt gagcctttgt taccaaagaa atctctcaga cttacaccto tgatgtggaa 420
acaattccag gaatcac 437

```

&lt;210&gt; 117

&lt;211&gt; 446

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 117

```

aagtttacct agaccaaact gaagatgacg aaggaaaagt tgttttatcc agagaaaaag 60
caacaagaca acgacaatgg gaatacatte ttgctcactg cgaggaaggt tctattgtta 120
agggacaaat taccgaaaaa gttaagggtg gtttgatcgt agatattggg atggaagcct 180
tccttcagg atcccaata gacaataaga agatcaagaa cttagatgat tacgtaggca 240
aggtttgtga gttcaaaatt ctcaaaatca acgtggatcg tcggaacggt gttgtatcta 300
gaagagaact tctcgaagct gaacgcattt ctaagaaagc agagttgatc gagcaaatca 360
ctatcggtga acgtcgcaaa ggtatcgtaa agaatatcac agatttcgga gtattcttgg 420
atcttgatgg cattgacggc ctactc 446

```

&lt;210&gt; 118

&lt;211&gt; 951

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 118

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agtattgcga aatattactg tgagaagcaa tgctgagacg ggttctagta aaagtgaggg 60
gagagctgtc agaagggatc gtcaggaag cgagacaacg tgtggctgat ttattaggaa 120
gattccctct ttatctgaa atcgatctgg aaacgctagt ttagtgggag actctatgcc 180

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tgaaggggaa atgatgcata agttgcaaga tgtcatagat agaaagtgtg tggattctcg 240
tcgtattttc ttctccgaac ctgtaacgga gaaaagtgtc gcagaagcca tcaaaaagct 300
ttggtatttg gaactcacca atcctgggca gccaatgtga tttgtcatta atagccctgg 360
agggctctgt gatgctgggt ttgctgtttg ggaccaaatt aaaatgatct cttctccttt 420
gactacagtt gttacagggt tagcagcatc tatgggatct gtattgagtt tgtgtgctgt 480
tccaggaaga cgttttgcta cgctcatgc gcgcattatg attcaccagc cttctattgg 540
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aaaagcacgc attattgatg tgtatgtcga ggcaactgga caatctccag aggtgataga 660
gaaagctatc gatcgagata tgtggatgag tgcaaataaa gcaatggagt ttggactgtt 720
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acagtttcat tttgggagaa tegatgcctt ctcttgagga tgttctgttt ttatgccagg 840
aagagatggg tgatgggttt ttatgtgtag agtcttctga aatagcagat gctaaactca 900
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&lt;210&gt; 119

&lt;211&gt; 953

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 119

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atatcaaagt tgggcaaatg acagagccgc tcaaggacca gcaaataatc cttgggacaa 60
catcaacacc tgtcgcagcc aaaatgacag cttctgatgg aatatcttta acagtctcca 120
ataatccatc aaccaatgct tctattacaa ttggtttgga tgcggaaaaa gcttaccagc 180
ttattctaga aaagtggga gatcaaatc ttggtggaat tgctgatact attgttgata 240
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cttttaacaa ctttccaatc actaataaaa ttcaatgcaa cgggttatte actcccagga 360
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caggcgttcc taatttatgt agtctaagaa ccagaattat taatacagga ttgactccga 600
caacgtattc attacgtgta ggcggtttag aaagcgggtg ggtatgggtt aatgcccttt 660
ctaattggca tgatatttta ggaataacaa atacttctaa tgtatctttt ttggaggtaa 720
tacctcaaac aaacgcttaa acaattttta ttggattttt cttataggtt ttatatttag 780
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ttattaaaat tgtaaagat tcctgggtatc ggtctgcgat tccgactcgt ccaacatcaa 900
tacaacctat taatttcccc tcgtcaaaaa taaggttatc aagtgagaaa tca 953

```

&lt;210&gt; 120

&lt;211&gt; 897

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 120

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atggcttcta tatgcggacg tttaggggtc ggtacagggg atgctctaaa agcttttttt 60
acacagccca gcaataaaat ggcaagggtg gtaaataaga cgaagggaat ggataagact 120
gttaaggctc ccaagtctgc tgccgaattg accgcaata ttttgaaca agctggaggc 180
gcgggctctt ccgcacacat tacagcttcc caagtgtcca aaggattagg ggatgcgaga 240
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caaagcttct tctcttacat gaaagctgct agtcagaaac cgcaagaagg ggatgagggg 360
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aaaaatgctg cgcaaccgtt tctttcttcc caaattaaag caaatatggg atcttctgtt 540
agctatatta tggcggctaa ccatgcagcg tttgtgggtg gttctggact cgctatcagt 600
gcggaaagag cagattgcga agcccgtgc gctcgtattg cgagagaaga gtcgtcactc 660

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```

gaattgtcgg gagaggaaaa tgcttgcgag aggagagtcg ctggagagaa agccaagacg      720
ttcacgcgca tcaagtatgc actcctcact atgctcgaga agtttttgga atgcgttgcc      780
gacgttttca aattgggtgcc gttgcctatt acaatgggta ttcgtgcaat tgtggctgcg      840
ggatgtacgt tcacttctgc agttattgga ttgtggactt tctgcgccag agcataa      897

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<210> 121
<211> 298
<212> PRT
<213> Chlamydia

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<400> 121
Met Ala Ser Ile Cys Gly Arg Leu Gly Ser Gly Thr Gly Asn Ala Leu
1      5      10      15
Lys Ala Phe Phe Thr Gln Pro Ser Asn Lys Met Ala Arg Val Val Asn
20      25      30
Lys Thr Lys Gly Met Asp Lys Thr Val Lys Val Ala Lys Ser Ala Ala
35      40      45
Glu Leu Thr Ala Asn Ile Leu Glu Gln Ala Gly Gly Ala Gly Ser Ser
50      55      60
Ala His Ile Thr Ala Ser Gln Val Ser Lys Gly Leu Gly Asp Ala Arg
65      70      75      80
Thr Val Leu Ala Leu Gly Asn Ala Phe Asn Gly Ala Leu Pro Gly Thr
85      90      95
Val Gln Ser Ala Gln Ser Phe Phe Ser Tyr Met Lys Ala Ala Ser Gln
100     105     110
Lys Pro Gln Glu Gly Asp Glu Gly Leu Val Ala Asp Leu Cys Val Ser
115     120     125
His Lys Arg Arg Ala Ala Ala Val Cys Ser Phe Ile Gly Gly Ile
130     135     140
Thr Tyr Leu Ala Thr Phe Gly Ala Ile Arg Pro Ile Leu Phe Val Asn
145     150     155     160
Lys Met Leu Ala Gln Pro Phe Leu Ser Ser Gln Ile Lys Ala Asn Met
165     170     175
Gly Ser Ser Val Ser Tyr Ile Met Ala Ala Asn His Ala Ala Phe Val
180     185     190
Val Gly Ser Gly Leu Ala Ile Ser Ala Glu Arg Ala Asp Cys Glu Ala
195     200     205
Arg Cys Ala Arg Ile Ala Arg Glu Glu Ser Ser Leu Glu Leu Ser Gly
210     215     220
Glu Glu Asn Ala Cys Glu Arg Arg Val Ala Gly Glu Lys Ala Lys Thr
225     230     235     240
Phe Thr Arg Ile Lys Tyr Ala Leu Leu Thr Met Leu Glu Lys Phe Leu
245     250     255
Glu Cys Val Ala Asp Val Phe Lys Leu Val Pro Leu Pro Ile Thr Met
260     265     270
Gly Ile Arg Ala Ile Val Ala Ala Gly Cys Thr Phe Thr Ser Ala Val
275     280     285
Ile Gly Leu Trp Thr Phe Cys Ala Arg Ala
290     295

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<210> 122
<211> 897
<212> DNA
<213> Chlamydia

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&lt;400&gt; 122

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gttaaggteg	ccaagtctgc	tgccgaattg	accgcaaata	ttttggaaca	agctggaggc	180
gcgggctctt	ccgcacacat	tacagcttcc	caagtgtcca	aaggattagg	ggatacgaga	240
actgttgteg	ctttagggaa	tgcctttaac	ggagcggttg	caggaacagt	tcaaagtgcg	300
caaagcttct	tctctcacat	gaaagctgct	agtcagaaaa	cgaagaagg	ggatgagggg	360
ctcacagcag	atctttgtgt	gtctcataag	cgcagagcgg	ctgcggtgt	ctgtggcttc	420
atcggaggaa	ttacctacct	cgcgacattc	ggagttatcc	gtccgattct	gtttgtcaac	480
aaaatgctgg	tgaaccctgt	tctttcttcc	caaactaaag	caaatatggg	atcttctgtt	540
agctatatta	tggcggctaa	ccatgcagcg	tctgtgggtg	gtgctggact	cgctatcagt	600
gcggaaagag	cagattgcga	agcccgtctg	gctcgtattg	cgagagaaga	gtcgttactc	660
gaagtgtcgg	gagaggaaaa	tgccttgcgag	aagagagtcg	ctggagagaa	agccaagacg	720
ttcacgcgca	tcaagtatgc	actcctcact	atgctcgaga	agtttttggg	atgcgttgcc	780
gacgttttca	aattgggtgcc	gctgcctatt	acaatgggta	ttcgtgcgat	tgtggctgct	840
ggatgtacgt	tcacttctgc	aattattgga	ttgtgcactt	tctgcgccag	agcataa	897

&lt;210&gt; 123

&lt;211&gt; 298

&lt;212&gt; PRT

&lt;213&gt; Chlamydia

&lt;400&gt; 123

Met	Ala	Ser	Ile	Cys	Gly	Arg	Leu	Gly	Ser	Gly	Thr	Gly	Asn	Ala	Leu	
1				5					10					15		
Lys	Ala	Phe	Phe	Thr	Gln	Pro	Ser	Asn	Lys	Met	Ala	Arg	Val	Val	Asn	
			20					25					30			
Lys	Thr	Lys	Gly	Met	Asp	Lys	Thr	Val	Lys	Val	Ala	Lys	Ser	Ala	Ala	
		35				40						45				
Glu	Leu	Thr	Ala	Asn	Ile	Leu	Glu	Gln	Ala	Gly	Gly	Ala	Gly	Ser	Ser	
	50					55					60					
Ala	His	Ile	Thr	Ala	Ser	Gln	Val	Ser	Lys	Gly	Leu	Gly	Asp	Thr	Arg	
65					70					75				80		
Thr	Val	Val	Ala	Leu	Gly	Asn	Ala	Phe	Asn	Gly	Ala	Leu	Pro	Gly	Thr	
				85					90					95		
Val	Gln	Ser	Ala	Gln	Ser	Phe	Phe	Ser	His	Met	Lys	Ala	Ala	Ser	Gln	
			100					105					110			
Lys	Thr	Gln	Glu	Gly	Asp	Glu	Gly	Leu	Thr	Ala	Asp	Leu	Cys	Val	Ser	
		115				120						125				
His	Lys	Arg	Arg	Ala	Ala	Ala	Ala	Val	Cys	Gly	Phe	Ile	Gly	Gly	Ile	
	130					135					140					
Thr	Tyr	Leu	Ala	Thr	Phe	Gly	Val	Ile	Arg	Pro	Ile	Leu	Phe	Val	Asn	
145					150					155					160	
Lys	Met	Leu	Val	Asn	Pro	Phe	Leu	Ser	Ser	Gln	Thr	Lys	Ala	Asn	Met	
				165					170					175		
Gly	Ser	Ser	Val	Ser	Tyr	Ile	Met	Ala	Ala	Asn	His	Ala	Ala	Ser	Val	
			180					185					190			
Val	Gly	Ala	Gly	Leu	Ala	Ile	Ser	Ala	Glu	Arg	Ala	Asp	Cys	Glu	Ala	
	195					200						205				
Arg	Cys	Ala	Arg	Ile	Ala	Arg	Glu	Glu	Ser	Leu	Leu	Glu	Val	Ser	Gly	
	210					215					220					
Glu	Glu	Asn	Ala	Cys	Glu	Lys	Arg	Val	Ala	Gly	Glu	Lys	Ala	Lys	Thr	
225					230					235					240	
Phe	Thr	Arg	Ile	Lys	Tyr	Ala	Leu	Leu	Thr	Met	Leu	Glu	Lys	Phe	Leu	
				245					250						255	

Glu Cys Val Ala Asp Val Phe Lys Leu Val Pro Leu Pro Ile Thr Met  
 260 265 270  
 Gly Ile Arg Ala Ile Val Ala Ala Gly Cys Thr Phe Thr Ser Ala Ile  
 275 280 285  
 Ile Gly Leu Cys Thr Phe Cys Ala Arg Ala  
 290 295

<210> 124  
 <211> 897  
 <212> DNA  
 <213> Chlamydia

<400> 124  
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 acacagccca acaataaaaat ggcaagggtta gtaaataaga cgaaggggaat ggataagact 120  
 attaaggttg ccaagtctgc tgccgaattg accgcaaata ttttggaaaca agctggaggc 180  
 gcgggctctt ccgcacacat tacagcttcc caagtgtcca aaggattagg ggatgcgaga 240  
 actgttgtcg ctttagggaa tgcccttaac ggagcgttgc caggaacagt tcaaagtgcg 300  
 caaagcttct tctctcacat gaaagctgct agtcagaaaa cgcaagaagg ggatgagggg 360  
 ctcacagcag atcttttgtg gtctcataag cgcagagcgg ctgctggtgt ctgtagcatc 420  
 atcggaggaa ttacctacct cgcgacattc ggagctatcc gtccgattct gtttgtcaac 480  
 aaaatgctgg caaaaccgtt tctttcttcc caaactaaag caaatatggg atcttctgtt 540  
 agctatatta tggcggctaa ccattgcagcg tctgtggtgg gtgctggact cgctatcagt 600  
 gcggaaagag cagattgcga agcccgtgct gctcgtattg cgagagaaga gtcgttactc 660  
 gaagtgccgg gagaggaaaa tgcttgcgag aagaaagtcg ctggagagaa agccaagacg 720  
 ttcacgcgca tcaagtatgc actcctcact atgctcgaga agtttttgga atgcgttgcc 780  
 gacgttttca aattgggtgcc gctgcctatt acaatgggta ttcgtgcat tgtggctgct 840  
 ggatgtacgt tcacttctgc aattattgga ttgtgcactt tctgcgccag agcataa 897

<210> 125  
 <211> 298  
 <212> PRT  
 <213> Chlamydia

<400> 125  
 Met Ala Ser Ile Cys Gly Arg Leu Gly Ser Gly Thr Gly Asn Ala Leu  
 1 5 10 15  
 Lys Ala Phe Phe Thr Gln Pro Asn Asn Lys Met Ala Arg Val Val Asn  
 20 25 30  
 Lys Thr Lys Gly Met Asp Lys Thr Ile Lys Val Ala Lys Ser Ala Ala  
 35 40 45  
 Glu Leu Thr Ala Asn Ile Leu Glu Gln Ala Gly Gly Ala Gly Ser Ser  
 50 55 60  
 Ala His Ile Thr Ala Ser Gln Val Ser Lys Gly Leu Gly Asp Ala Arg  
 65 70 75 80  
 Thr Val Val Ala Leu Gly Asn Ala Phe Asn Gly Ala Leu Pro Gly Thr  
 85 90 95  
 Val Gln Ser Ala Gln Ser Phe Phe Ser His Met Lys Ala Ala Ser Gln  
 100 105 110  
 Lys Thr Gln Glu Gly Asp Glu Gly Leu Thr Ala Asp Leu Cys Val Ser  
 115 120 125  
 His Lys Arg Arg Ala Ala Ala Val Cys Ser Ile Ile Gly Gly Ile  
 130 135 140  
 Thr Tyr Leu Ala Thr Phe Gly Ala Ile Arg Pro Ile Leu Phe Val Asn  
 145 150 155 160

```
<210> 126
<211> 897
<212> DNA
<213> Chlamydia
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<210> 127
<211> 298
<212> PRT
<213> Chlamydia
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<400> 127															
Met	Ala	Ser	Ile	Cys	Gly	Arg	Leu	Gly	Ser	Gly	Thr	Gly	Asn	Ala	Leu
1				5					10					15	
Lys	Ala	Phe	Phe	Thr	Gln	Pro	Asn	Asn	Lys	Met	Ala	Arg	Val	Val	Asn
			20					25					30		
Lys	Thr	Lys	Gly	Met	Asp	Lys	Thr	Ile	Lys	Val	Ala	Lys	Ser	Ala	Ala
		35					40					45			
Glu	Leu	Thr	Ala	Asn	Ile	Leu	Glu	Gln	Ala	Gly	Gly	Ala	Gly	Ser	Ser
	50					55					60				

Ala His Ile Thr Ala Ser Gln Val Ser Lys Gly Leu Gly Asp Ala Arg  
65 70 75 80  
Thr Val Val Ala Leu Gly Asn Ala Phe Asn Gly Ala Leu Pro Gly Thr  
85 90 95  
Val Gln Ser Ala Gln Ser Phe Phe Ser His Met Lys Ala Ala Ser Gln  
100 105 110  
Lys Thr Gln Glu Gly Asp Glu Gly Leu Thr Ala Asp Leu Cys Val Ser  
115 120 125  
His Lys Arg Arg Ala Ala Ala Val Cys Ser Ile Ile Gly Gly Ile  
130 135 140  
Thr Tyr Leu Ala Thr Phe Gly Ala Ile Arg Pro Ile Leu Phe Val Asn  
145 150 155 160  
Lys Met Leu Ala Lys Pro Phe Leu Ser Ser Gln Thr Lys Ala Asn Met  
165 170 175  
Gly Ser Ser Val Ser Tyr Ile Met Ala Ala Asn His Ala Ala Ser Val  
180 185 190  
Val Gly Ala Gly Leu Ala Ile Ser Ala Glu Arg Ala Asp Cys Glu Ala  
195 200 205  
Arg Cys Ala Arg Ile Ala Arg Glu Glu Ser Leu Leu Glu Val Pro Gly  
210 215 220  
Glu Glu Asn Ala Cys Glu Lys Lys Val Ala Gly Glu Lys Ala Lys Thr  
225 230 235 240  
Phe Thr Arg Ile Lys Tyr Ala Leu Leu Thr Met Leu Glu Lys Phe Leu  
245 250 255  
Glu Cys Val Ala Asp Val Phe Lys Leu Val Pro Leu Pro Ile Thr Met  
260 265 270  
Gly Ile Arg Ala Ile Val Ala Ala Gly Cys Thr Phe Thr Ser Ala Ile  
275 280 285  
Ile Gly Leu Cys Thr Phe Cys Ala Arg Ala  
290 295

&lt;210&gt; 128

&lt;211&gt; 897

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 128

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atggcttcta tatgtggacg tttaggggtct ggtacagggga atgctctaaa agcttttttt 60
acacagccca gcaataaaat ggcaagggtta gtaaataaga cgaagggaat ggataagact 120
gttaaggtcg ccaagtctgc tgccgaattg accgcaaata ttttgaaca agctggaggc 180
gcgggctctt ccgcacacat tacagcttcc caagtgtcca aaggattagg ggatacgaga 240
actgttgctg ctttagggaa tgcccttaac ggagcgttgc caggaacagt tcaaagtgcg 300
caaagcttct tctctcacat gaaagctgct agtcagaaaa cgcaagaagg ggatgagggg 360
ctcacagcag atctttgtgt gtctcataag cgcagagcgg ctgcggtgt ctgtggcttc 420
atcggaggaa ttacctacct cgcgacattc ggagttatcc gtccgattct gtttgteaac 480
aaaatgctgg tgaaccggtt tctttcttcc caaactaaag caaatatggg atcttetgtt 540
agctatatta tggcggctaa ccatgcagcg tctgtggtgg gtgctggact cgctatcagt 600
gcggaaagag cagattgcga agcccgtgc gctcgtattg cgagagaaga gtcgttactc 660
gaagtgtcgg gagaggaaaa tgcttgcgag aagagagtcg ctggagagaa agccaagacg 720
ttcacgcgca tcaagtatgc actcctcact atgctcgaga agtttttggg atgcgttgcc 780
gacgttttca aattggtgcc gctgcctatt acaatgggta ttcgtgcgat tgtggctgct 840
ggatgtacgt tcacttctgc aattattgga ttgtgcactt tctgcgccag agcataa 897

```

&lt;210&gt; 129

&lt;211&gt; 298

&lt;212&gt; PRT

&lt;213&gt; Chlamydia

&lt;400&gt; 129

```

Met Ala Ser Ile Cys Gly Arg Leu Gly Ser Gly Thr Gly Asn Ala Leu
 1      5      10      15
Lys Ala Phe Phe Thr Gln Pro Ser Asn Lys Met Ala Arg Val Val Asn
      20      25      30
Lys Thr Lys Gly Met Asp Lys Thr Val Lys Val Ala Lys Ser Ala Ala
      35      40      45
Glu Leu Thr Ala Asn Ile Leu Glu Gln Ala Gly Gly Ala Gly Ser Ser
      50      55      60
Ala His Ile Thr Ala Ser Gln Val Ser Lys Gly Leu Gly Asp Thr Arg
65      70      75      80
Thr Val Val Ala Leu Gly Asn Ala Phe Asn Gly Ala Leu Pro Gly Thr
      85      90      95
Val Gln Ser Ala Gln Ser Phe Phe Ser His Met Lys Ala Ala Ser Gln
      100     105     110
Lys Thr Gln Glu Gly Asp Glu Gly Leu Thr Ala Asp Leu Cys Val Ser
      115     120     125
His Lys Arg Arg Ala Ala Ala Val Cys Gly Phe Ile Gly Gly Ile
      130     135     140
Thr Tyr Leu Ala Thr Phe Gly Val Ile Arg Pro Ile Leu Phe Val Asn
145     150     155     160
Lys Met Leu Val Asn Pro Phe Leu Ser Ser Gln Thr Lys Ala Asn Met
      165     170     175
Gly Ser Ser Val Ser Tyr Ile Met Ala Ala Asn His Ala Ala Ser Val
      180     185     190
Val Gly Ala Gly Leu Ala Ile Ser Ala Glu Arg Ala Asp Cys Glu Ala
      195     200     205
Arg Cys Ala Arg Ile Ala Arg Glu Glu Ser Leu Leu Glu Val Ser Gly
210     215     220
Glu Glu Asn Ala Cys Glu Lys Arg Val Ala Gly Glu Lys Ala Lys Thr
225     230     235     240
Phe Thr Arg Ile Lys Tyr Ala Leu Leu Thr Met Leu Glu Lys Phe Leu
      245     250     255
Glu Cys Val Ala Asp Val Phe Lys Leu Val Pro Leu Pro Ile Thr Met
      260     265     270
Gly Ile Arg Ala Ile Val Ala Ala Gly Cys Thr Phe Thr Ser Ala Ile
      275     280     285
Ile Gly Leu Cys Thr Phe Cys Ala Arg Ala
290     295

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&lt;210&gt; 130

&lt;211&gt; 897

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 130

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atggctgcta tatgtggacg tttagggtct ggtacaggga atgctctaaa agcttttttt 60
acacagccca gcaataaaat ggcaagggtg gtaaataaga cgaagggaat ggataagact 120
gttaaggctcg ccaagtctgc tgcggaattg accgcaaata ttttggaca agctggaggc 180
gcgggctctt ccgcacacat tacagcttcc caagtgtcca aaggattagg ggatgcgaga 240
actgttctcg ctttagggaa tgcttttaac ggagcgttgc caggaacagt tcaaagtgcg 300
caaagcttct tctcttacat gaaagctgct agtcagaaac cgcaagaagg ggatgagggg 360

```

```

ctcgtagcag atctttgtgt gtctcataag cgcagagcgg ctgCGgctgt ctgtagcttc 420
atcggaggaa ttacctacct cgcgacattc ggagctatcc gtccgattct gtttgtcaac 480
aaaatgctgg cgcaaccgtt tctttcttcc caaactaaag caaatatggg atcttctgtt 540
agctatatta tggcggctaa ccatgcagcg tttgtgggtg gttctggact cgctatcagt 600
gcggaaagag cagattgcga agcccgctgc gctcgtattg cgagagaaga gtcgtcactc 660
gaattgtcgg gagaggaaaa tgcttgCgag aggggagtcg ctggagagaa agccaagacg 720
ttcacgcgca tcaagtatgc actcctcact atgctcgaga agtttttgga atgcgttgcc 780
gacgttttca aattggtgcc gttgcctatt acaatgggta ttcgtgcaat tgtggctgcg 840
ggatgtacgt tcacttctgc agttattgga ttgtggactt tctgcaacag agtataa 897

```

&lt;210&gt; 131

&lt;211&gt; 298

&lt;212&gt; PRT

&lt;213&gt; Chlamydia

&lt;400&gt; 131

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Met Ala Ala Ile Cys Gly Arg Leu Gly Ser Gly Thr Gly Asn Ala Leu
1          5          10          15
Lys Ala Phe Phe Thr Gln Pro Ser Asn Lys Met Ala Arg Val Val Asn
20          25          30
Lys Thr Lys Gly Met Asp Lys Thr Val Lys Val Ala Lys Ser Ala Ala
35          40          45
Glu Leu Thr Ala Asn Ile Leu Glu Gln Ala Gly Gly Ala Gly Ser Ser
50          55          60
Ala His Ile Thr Ala Ser Gln Val Ser Lys Gly Leu Gly Asp Ala Arg
65          70          75          80
Thr Val Leu Ala Leu Gly Asn Ala Phe Asn Gly Ala Leu Pro Gly Thr
85          90          95
Val Gln Ser Ala Gln Ser Phe Phe Ser Tyr Met Lys Ala Ala Ser Gln
100         105         110
Lys Pro Gln Glu Gly Asp Glu Gly Leu Val Ala Asp Leu Cys Val Ser
115         120         125
His Lys Arg Arg Ala Ala Ala Val Cys Ser Phe Ile Gly Gly Ile
130         135         140
Thr Tyr Leu Ala Thr Phe Gly Ala Ile Arg Pro Ile Leu Phe Val Asn
145         150         155         160
Lys Met Leu Ala Gln Pro Phe Leu Ser Ser Gln Thr Lys Ala Asn Met
165         170         175
Gly Ser Ser Val Ser Tyr Ile Met Ala Ala Asn His Ala Ala Phe Val
180         185         190
Val Gly Ser Gly Leu Ala Ile Ser Ala Glu Arg Ala Asp Cys Glu Ala
195         200         205
Arg Cys Ala Arg Ile Ala Arg Glu Glu Ser Ser Leu Glu Leu Ser Gly
210         215         220
Glu Glu Asn Ala Cys Glu Arg Gly Val Ala Gly Glu Lys Ala Lys Thr
225         230         235         240
Phe Thr Arg Ile Lys Tyr Ala Leu Leu Thr Met Leu Glu Lys Phe Leu
245         250         255
Glu Cys Val Ala Asp Val Phe Lys Leu Val Pro Leu Pro Ile Thr Met
260         265         270
Gly Ile Arg Ala Ile Val Ala Ala Gly Cys Thr Phe Thr Ser Ala Val
275         280         285
Ile Gly Leu Trp Thr Phe Cys Asn Arg Val
290         295

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<210> 132  
 <211> 897  
 <212> DNA  
 <213> Chlamydia

<400> 132  
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 acacagccca gcaataaaat ggcaagggta gtaaataaga cgaaggggaat ggataagact 120  
 gttaaggctcg ccaagtctgc tgcggaattg accgcaaata ttttggaaca agctggaggc 180  
 gcgggctctt ccgcacacat tacagcttcc caagtgtcca aaggattagg ggatgcgaga 240  
 actgttctcg ctttagggaa tgcccttaac ggagcgttgc caggaacagt tcaaagtgcg 300  
 caaagcttct tctcttacat gaaagctgct agtcagaaac cgcaagaagg ggatgagggg 360  
 ctgctagcag atctttgtgt gtctcataag cgcagagcgg ctgctggctgt ctgtagcttc 420  
 atcggaggaa ttacctacct cgcgacattc ggagctatcc gtccgattct gtttgtcaac 480  
 aaaatgctgg cgcaaccgtt tctttcttcc caaactaaag caaataatggg atcttctgtt 540  
 agctatatta tggcggctaa ccatgcagcg tttgtggtgg gttctggact cgctatcagt 600  
 gcggaaaagag cagattgcga agcccgtcgc gctcgtattg cgagagaaga gtcgtcactc 660  
 gaattgtcgg gagagaaaaa tgcttctgag aggagatcgc ctggagagaa agccaagacg 720  
 ttcacgcgca tcaagtatgc actcctcact atgctcgaga agtttttggg atgcgttgcc 780  
 gacgttttca aattgggtgcc gttgcctatt acaatgggta ttcgtgcaat tgtggctgcg 840  
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<210> 133  
 <211> 298  
 <212> PRT  
 <213> Chlamydia

<400> 133  
 Met Ala Ala Ile Cys Gly Arg Leu Gly Ser Gly Thr Gly Asn Ala Leu  
 1 5 10 15  
 Lys Ala Phe Phe Thr Gln Pro Ser Asn Lys Met Ala Arg Val Val Asn  
 20 25 30  
 Lys Thr Lys Gly Met Asp Lys Thr Val Lys Val Ala Lys Ser Ala Ala  
 35 40 45  
 Glu Leu Thr Ala Asn Ile Leu Glu Gln Ala Gly Gly Ala Gly Ser Ser  
 50 55 60  
 Ala His Ile Thr Ala Ser Gln Val Ser Lys Gly Leu Gly Asp Ala Arg  
 65 70 75 80  
 Thr Val Leu Ala Leu Gly Asn Ala Phe Asn Gly Ala Leu Pro Gly Thr  
 85 90 95  
 Val Gln Ser Ala Gln Ser Phe Phe Ser Tyr Met Lys Ala Ala Ser Gln  
 100 105 110  
 Lys Pro Gln Glu Gly Asp Glu Gly Leu Val Ala Asp Leu Cys Val Ser  
 115 120 125  
 His Lys Arg Arg Ala Ala Ala Val Cys Ser Phe Ile Gly Gly Ile  
 130 135 140  
 Thr Tyr Leu Ala Thr Phe Gly Ala Ile Arg Pro Ile Leu Phe Val Asn  
 145 150 155 160  
 Lys Met Leu Ala Gln Pro Phe Leu Ser Ser Gln Thr Lys Ala Asn Met  
 165 170 175  
 Gly Ser Ser Val Ser Tyr Ile Met Ala Ala Asn His Ala Ala Phe Val  
 180 185 190  
 Val Gly Ser Gly Leu Ala Ile Ser Ala Glu Arg Ala Asp Cys Glu Ala  
 195 200 205  
 Arg Cys Ala Arg Ile Ala Arg Glu Glu Ser Ser Leu Glu Leu Ser Gly

210	215	220
Glu Glu Asn Ala Cys	Glu Arg Arg Val Ala Gly	Glu Lys Ala Lys Thr
225	230	235
Phe Thr Arg Ile Lys Tyr	Ala Leu Leu Thr Met	Leu Glu Lys Phe Leu
245	250	255
Glu Cys Val Ala Asp	Val Phe Lys Leu Val Pro	Leu Pro Ile Thr Met
260	265	270
Gly Ile Arg Ala Ile Val	Ala Ala Gly Cys Thr	Phe Thr Ser Ala Val
275	280	285
Ile Gly Leu Trp Thr Phe	Cys Asn Arg Val	
290	295	

<210> 134  
 <211> 897  
 <212> DNA  
 <213> Chlamydia

<400> 134

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attaaggttg	ccaagtctgc	tgccgaattg	accgcaaata	ttttggaaca	agctggaggc	180
gcgggctctt	ccgcacacat	tacagcttcc	caagtgtcca	aaggattagg	ggatgcgaga	240
actgttgctg	ctttagggaa	tgctttaac	ggagcgttgc	caggaacagt	tcaaagtgcg	300
caaagcttct	tctctcacat	gaaagctgct	agtcagaaaa	cgcaagaagg	ggatgagggg	360
ctcacagcag	atctttgtgt	gtctcataag	cgcagagcgg	ctgcggctgt	ctgtagcatc	420
atcggaggaa	ttacctacct	cgcgacattc	ggagctatcc	gtccgattct	gtttgtcaac	480
aaaatgctgg	caaaaccggt	tctttcttcc	caaactaaag	caaatatggg	atcttctgtt	540
agctatatta	tggcggctaa	ccatgcagcg	tctgtggtgg	gtgctggact	cgctatcagt	600
gcggaaagag	cagattgcga	agcccgtctg	gctcgtattg	cgagagaaga	gtcgttactc	660
gaaatgccgg	gagaggaaaa	tgcttgcgag	aagaaagtcg	ctggagagaa	agccaagacg	720
ttcacgcgca	tcaagtatgc	actcctcact	atgctcgaga	agtttttgga	atgcgttgcc	780
gacgttttca	aattggtgcc	gctgcctatt	acaatgggta	ttcgtgcgat	tgtggctgct	840
ggatgtacgt	tcacttctgc	aattattgga	ttgtgcactt	tctgcgccag	agcataa	897

<210> 135  
 <211> 298  
 <212> PRT  
 <213> Chlamydia

<400> 135

Met	Ala	Ser	Ile	Cys	Gly	Arg	Leu	Gly	Ser	Gly	Thr	Gly	Asn	Ala	Leu
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Lys	Ala	Phe	Phe	Thr	Gln	Pro	Asn	Asn	Lys	Met	Ala	Arg	Val	Val	Asn
			20					25					30		
Lys	Thr	Lys	Gly	Met	Asp	Lys	Thr	Ile	Lys	Val	Ala	Lys	Ser	Ala	Ala
		35					40					45			
Glu	Leu	Thr	Ala	Asn	Ile	Leu	Glu	Gln	Ala	Gly	Gly	Ala	Gly	Ser	Ser
	50					55					60				
Ala	His	Ile	Thr	Ala	Ser	Gln	Val	Ser	Lys	Gly	Leu	Gly	Asp	Ala	Arg
65					70					75					80
Thr	Val	Val	Ala	Leu	Gly	Asn	Ala	Phe	Asn	Gly	Ala	Leu	Pro	Gly	Thr
				85					90					95	
Val	Gln	Ser	Ala	Gln	Ser	Phe	Phe	Ser	His	Met	Lys	Ala	Ala	Ser	Gln
			100					105					110		
Lys	Thr	Gln	Glu	Gly	Asp	Glu	Gly	Leu	Thr	Ala	Asp	Leu	Cys	Val	Ser

115	120	125
His Lys Arg Arg Ala Ala Ala Val Cys Ser Ile Ile Gly Gly Ile		
130	135	140
Thr Tyr Leu Ala Thr Phe Gly Ala Ile Arg Pro Ile Leu Phe Val Asn		
145	150	155
Lys Met Leu Ala Lys Pro Phe Leu Ser Ser Gln Thr Lys Ala Asn Met		
165	170	175
Gly Ser Ser Val Ser Tyr Ile Met Ala Ala Asn His Ala Ala Ser Val		
180	185	190
Val Gly Ala Gly Leu Ala Ile Ser Ala Glu Arg Ala Asp Cys Glu Ala		
195	200	205
Arg Cys Ala Arg Ile Ala Arg Glu Glu Ser Leu Leu Glu Met Pro Gly		
210	215	220
Glu Glu Asn Ala Cys Glu Lys Lys Val Ala Gly Glu Lys Ala Lys Thr		
225	230	235
Phe Thr Arg Ile Lys Tyr Ala Leu Leu Thr Met Leu Glu Lys Phe Leu		
245	250	255
Glu Cys Val Ala Asp Val Phe Lys Leu Val Pro Leu Pro Ile Thr Met		
260	265	270
Gly Ile Arg Ala Ile Val Ala Ala Gly Cys Thr Phe Thr Ser Ala Ile		
275	280	285
Ile Gly Leu Cys Thr Phe Cys Ala Arg Ala		
290	295	

&lt;210&gt; 136

&lt;211&gt; 882

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 136

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&lt;210&gt; 137

&lt;211&gt; 293

&lt;212&gt; PRT

&lt;213&gt; Chlamydia

&lt;400&gt; 137

Met Ala Ser Val Cys Gly Arg Leu Ser Ala Gly Val Gly Asn Arg Phe
1 5 10 15
Asn Ala Phe Phe Thr Arg Pro Gly Asn Lys Leu Ser Arg Phe Val Asn

20 25 30  
 Ser Ala Lys Gly Leu Asp Arg Ser Ile Lys Val Gly Lys Ser Ala Ala  
 35 40 45  
 Glu Leu Thr Ala Ser Ile Leu Glu Gln Thr Gly Gly Ala Gly Thr Asp  
 50 55 60  
 Ala His Val Thr Ala Ala Lys Val Ser Lys Ala Leu Gly Asp Ala Arg  
 65 70 75 80  
 Thr Val Met Ala Leu Gly Asn Val Phe Asn Gly Ser Val Pro Ala Thr  
 85 90 95  
 Ile Gln Ser Ala Arg Ser Cys Leu Ala His Leu Arg Ala Ala Gly Lys  
 100 105 110  
 Glu Glu Glu Thr Cys Ser Lys Val Lys Asp Leu Cys Val Ser His Arg  
 115 120 125  
 Arg Arg Ala Ala Ala Glu Ala Cys Asn Val Ile Gly Ala Thr Tyr  
 130 135 140  
 Ile Thr Thr Phe Gly Ala Ile Arg Pro Thr Leu Val Asn Lys Leu  
 145 150 155 160  
 Leu Ala Lys Pro Phe Leu Ser Ser Gln Ala Lys Glu Gly Leu Gly Ala  
 165 170 175  
 Ser Val Gly Tyr Ile Met Ala Ala Asn His Ala Ala Ser Val Leu Gly  
 180 185 190  
 Ser Ala Leu Ser Ile Ser Ala Glu Arg Ala Asp Cys Glu Glu Arg Cys  
 195 200 205  
 Asp Arg Ile Arg Cys Ser Glu Asp Gly Glu Ile Cys Glu Gly Asn Lys  
 210 215 220  
 Leu Thr Ala Ile Ser Glu Glu Lys Ala Arg Ser Trp Thr Leu Ile Lys  
 225 230 235 240  
 Tyr Arg Phe Leu Thr Met Ile Glu Lys Leu Phe Glu Met Val Ala Asp  
 245 250 255  
 Ile Phe Lys Leu Ile Pro Leu Pro Ile Ser His Gly Ile Arg Ala Ile  
 260 265 270  
 Val Ala Ala Gly Cys Thr Leu Thr Ser Ala Val Ile Gly Leu Gly Thr  
 275 280 285  
 Phe Trp Ser Arg Ala  
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<210> 138  
 <211> 16  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 138  
 Asp Leu Cys Val Ser His Lys Arg Arg Ala Ala Ala Ala Val Cys Ser  
 1 5 10 15

<210> 139  
 <211> 16  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 139  
 Arg Ala Ala Ala Val Cys Ser Phe Ile Gly Gly Ile Thr Tyr Leu  
 1 5 10 15

<210> 140  
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 <212> PRT  
 <213> Artificial Sequence

<220>  
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 Arg Pro

<210> 141  
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<220>  
 <223> Made in a lab

<400> 14  
 Tyr Leu Ala Thr Phe Gly Ala Ile Arg Pro Ile Leu Phe Val Asn Lys  
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 Met Leu

<210> 142  
 <211> 18  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 142  
 Arg Pro Ile Leu Phe Val Asn Lys Met Leu Ala Gln Pro Phe Leu Ser  
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<210> 143  
 <211> 17  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 143

<210> 144

<212> PRT

<213> Artificial Sequence

<223> Made in a lab

<400> 144

<210> 145

<212> PRT

<213> Artificial Sequence

<223> Made in a lab

<400> 145

<210> 146

<212> PRT

<213> Artificial Sequence

<223> Made in a lab

<400> 146

<210> 147

<212> PRT

<213> Artificial Sequence

<223> Made in a lab

<400> 147

<210> 148

<211> 8  
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 <213> Artificial Sequence

<220>  
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 Cys Ser Phe Ile Gly Gly Ile Thr  
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<210> 149  
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<220>  
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<400> 149  
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 <213> Artificial Sequence

<220>  
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<400> 150  
 Cys Gly Phe Ile Gly Gly Ile Thr Tyr Leu  
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<210> 151  
 <211> 9  
 <212> PRT  
 <213> Artificial Sequence

<220>  
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<400> 151  
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<210> 152  
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 <212> PRT  
 <213> Artificial Sequence

<220>  
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<400> 152  
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<210> 153  
 <211> 20  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 153  
 Glu Arg Leu Arg Leu Arg Leu Ser Val Ala Ser Ser Glu Glu Leu Pro  
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 Thr Ser Arg His  
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<210> 154  
 <211> 20  
 <212> PRT  
 <213> Artificial Sequence

<220>  
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 Ala Ser Ser Glu Glu Leu Pro Thr Ser Arg His Ser Glu Leu Ser Val  
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<210> 155  
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 <212> PRT  
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<220>  
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<210> 156  
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<220>  
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<400> 156  
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 <212> PRT  
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<220>  
 <223> Made in a lab

<400> 157  
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 Phe Cys Leu Ser Thr Lys Cys Trp Arg Asn Arg Phe Phe Leu Pro Lys  
 35 40 45  
 Leu Lys Gln Ile Trp  
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<210> 158  
 <211> 52  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 158  
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 Ile Gly Gly Ile Thr Tyr Leu Ala Thr Phe Gly Ala Ile Arg Pro Ile  
 20 25 30  
 Leu Phe Val Asn Lys Met Leu Ala Gln Pro Phe Leu Ser Ser Gln Ile  
 35 40 45  
 Lys Ala Asn Met  
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<210> 159  
 <211> 24  
 <212> DNA  
 <213> Chlamydia

<400> 159  
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24

<210> 160  
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 <212> DNA  
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<400> 160  
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24

<210> 161  
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<212> DNA  
<213> Chlamydia

<400> 161  
ggtataatat ctctctaaat ttg

24

<210> 162  
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<212> DNA  
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<400> 162  
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19

<210> 163  
<211> 24  
<212> DNA  
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<400> 163  
ttttgaagca ggtaggtgaa tatg

24

<210> 164  
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<212> DNA  
<213> Chlamydia

<400> 164  
tttacaataa gaaaagctaa gcactttgt

29

<210> 165  
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<212> DNA  
<213> Chlamydia

<400> 165  
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20

<210> 166  
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<212> DNA  
<213> Chlamydia

<400> 166  
gtttccgggc cctcacattg

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<210> 167  
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<212> PRT

<213> Artificial Sequence

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<223> Made in a lab

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Ser Phe Ile Gly Gly Ile Thr Tyr Leu

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<210> 168

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 168

Ser Ile Ile Gly Gly Ile Thr Tyr Leu

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5

<210> 169

<211> 2643

<212> DNA

<213> Chlamydia

<400> 169

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&lt;210&gt; 170

&lt;211&gt; 2949

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 170

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&lt;210&gt; 171

&lt;211&gt; 2895

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 171

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&lt;210&gt; 172

&lt;211&gt; 4593

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 172

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&lt;210&gt; 173

&lt;211&gt; 5331

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 173

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&lt;210&gt; 174

&lt;211&gt; 5265

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 174

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<210> 175

<211> 880

<212> PRT

<213> Chlamydia

<220>

<221> VARIANT

<222> (1)...(880)

<223> Xaa = Any Amino Acid

<400> 175

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Thr Ala Leu Leu Thr Lys Asn Pro Asn His Val Val Cys Thr Phe Phe
          35          40          45
Glu Asp Cys Thr Met Glu Ser Leu Phe Pro Ala Leu Cys Ala His Ala
          50          55          60
Ser Gln Asp Asp Pro Leu Tyr Val Leu Gly Asn Ser Tyr Cys Trp Phe
65          70          75          80
Val Ser Lys Leu His Ile Thr Asp Pro Lys Glu Ala Leu Phe Lys Glu
          85          90          95
Lys Gly Asp Leu Ser Ile Gln Asn Phe Arg Phe Leu Ser Phe Thr Asp
          100         105         110
Cys Ser Ser Lys Glu Ser Ser Pro Ser Ile Ile His Gln Lys Asn Gly
          115         120         125
Gln Leu Ser Leu Arg Asn Asn Gly Ser Met Ser Phe Cys Arg Asn His
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Ala Glu Gly Ser Gly Gly Ala Ile Ser Ala Asp Ala Phe Ser Leu Gln

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Phe	Phe	Asp	Pro	Ile	Val	Gln	Glu	Ser	Ser	Ser	Lys	Glu	Ser	Pro
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&lt;210&gt; 176

&lt;211&gt; 982

&lt;212&gt; PRT

&lt;213&gt; Chlamydia

&lt;220&gt;

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&lt;223&gt; Xaa = Any Amino Acid

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Asn	Pro	Pro	Ala	Gln	Asp	Ser	His	Pro	Ala	Val	Ile	Gly	Ser	Thr	Thr	565	570	575
Ala	Gly	Ser	Val	Thr	Ile	Ser	Gly	Pro	Ile	Phe	Phe	Glu	Asp	Leu	Asp	580	585	590
Asp	Thr	Ala	Tyr	Asp	Arg	Tyr	Asp	Trp	Leu	Gly	Ser	Asn	Gln	Lys	Ile	595	600	605
Asn	Val	Leu	Lys	Leu	Gln	Leu	Gly	Thr	Lys	Pro	Pro	Ala	Asn	Ala	Pro	610	615	620
Ser	Asp	Leu	Thr	Leu	Gly	Asn	Glu	Met	Pro	Lys	Tyr	Gly	Tyr	Gln	Gly	625	630	635
Ser	Trp	Lys	Leu	Ala	Trp	Asp	Pro	Asn	Thr	Ala	Asn	Asn	Gly	Pro	Tyr	645	650	655
Thr	Leu	Lys	Ala	Thr	Trp	Thr	Lys	Thr	Gly	Tyr	Asn	Pro	Gly	Pro	Glu	660	665	670
Arg	Val	Ala	Ser	Leu	Val	Pro	Asn	Ser	Leu	Trp	Gly	Ser	Ile	Leu	Asp	675	680	685
Ile	Arg	Ser	Ala	His	Ser	Ala	Ile	Gln	Ala	Ser	Val	Asp	Gly	Arg	Ser	690	695	700
Tyr	Cys	Arg	Gly	Leu	Trp	Val	Ser	Gly	Val	Ser	Asn	Phe	Phe	Tyr	His	705	710	715
Asp	Arg	Asp	Ala	Leu	Gly	Gln	Gly	Tyr	Arg	Tyr	Ile	Ser	Gly	Gly	Tyr	725	730	735
Ser	Leu	Gly	Ala	Asn	Ser	Tyr	Phe	Gly	Ser	Ser	Met	Phe	Gly	Leu	Ala	740	745	750
Phe	Thr	Glu	Val	Phe	Gly	Arg	Ser	Lys	Asp	Tyr	Val	Val	Cys	Arg	Ser	755	760	765
Asn	His	His	Ala	Cys	Ile	Gly	Ser	Val	Tyr	Leu	Ser	Thr	Gln	Gln	Ala	770	775	780
Leu	Cys	Gly	Ser	Tyr	Leu	Phe	Gly	Asp	Ala	Phe	Ile	Arg	Ala	Ser	Tyr	785	790	795
Gly	Phe	Gly	Asn	Gln	His	Met	Lys	Thr	Ser	Tyr	Thr	Phe	Ala	Glu	Glu	805	810	815
Ser	Asp	Val	Arg	Trp	Asp	Asn	Asn	Cys	Leu	Ala	Gly	Glu	Ile	Gly	Ala	820	825	830
Gly	Leu	Pro	Ile	Val	Ile	Thr	Pro	Ser	Lys	Leu	Tyr	Leu	Asn	Glu	Leu	835	840	845
Arg	Pro	Phe	Val	Gln	Ala	Glu	Phe	Ser	Tyr	Ala	Asp	His	Glu	Ser	Phe	850	855	860
Thr	Glu	Glu	Gly	Asp	Gln	Ala	Arg	Ala	Phe	Lys	Ser	Gly	His	Leu	Leu	865	870	875
Asn	Leu	Ser	Val	Pro	Val	Gly	Val	Lys	Phe	Asp	Arg	Cys	Ser	Ser	Thr	885	890	895
His	Pro	Asn	Lys	Tyr	Ser	Phe	Met	Ala	Ala	Tyr	Ile	Cys	Asp	Ala	Tyr	900	905	910
Arg	Thr	Ile	Ser	Gly	Thr	Glu	Thr	Thr	Leu	Leu	Ser	His	Gln	Glu	Thr	915	920	925
Trp	Thr	Thr	Asp	Ala	Phe	His	Leu	Ala	Arg	His	Gly	Val	Val	Val	Arg			

930                      935                      940  
 Gly Ser Met Tyr Ala Ser Leu Thr Ser Asn Ile Glu Val Tyr Gly His  
 945                      950                      955                      960  
 Gly Arg Tyr Glu Tyr Arg Asp Ala Ser Arg Gly Tyr Gly Leu Ser Ala  
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 Gly Ser Lys Val Xaa Phe  
                     980

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 <212> PRT  
 <213> Chlamydia

<400> 177  
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 Leu Ala Arg Glu Val Pro Ser Arg Ile Phe Leu Met Pro Asn Ser Val  
                     20                      25                      30  
 Pro Asp Pro Thr Lys Glu Ser Leu Ser Asn Lys Ile Ser Leu Thr Gly  
                     35                      40                      45  
 Asp Thr His Asn Leu Thr Asn Cys Tyr Leu Asp Asn Leu Arg Tyr Ile  
                     50                      55                      60  
 Leu Ala Ile Leu Gln Lys Thr Pro Asn Glu Gly Ala Ala Val Thr Ile  
 65                      70                      75                      80  
 Thr Asp Tyr Leu Ser Phe Phe Asp Thr Gln Lys Glu Gly Ile Tyr Phe  
                     85                      90                      95  
 Ala Lys Asn Leu Thr Pro Glu Ser Gly Gly Ala Ile Gly Tyr Ala Ser  
                     100                      105                      110  
 Pro Asn Ser Pro Thr Val Glu Ile Arg Asp Thr Ile Gly Pro Val Ile  
                     115                      120                      125  
 Phe Glu Asn Asn Thr Cys Cys Arg Leu Phe Thr Trp Arg Asn Pro Tyr  
 130                      135                      140  
 Ala Ala Asp Lys Ile Arg Glu Gly Gly Ala Ile His Ala Gln Asn Leu  
 145                      150                      155                      160  
 Tyr Ile Asn His Asn His Asp Val Val Gly Phe Met Lys Asn Phe Ser  
                     165                      170                      175  
 Tyr Val Gln Gly Gly Ala Ile Ser Thr Ala Asn Thr Phe Val Val Ser  
                     180                      185                      190  
 Glu Asn Gln Ser Cys Phe Leu Phe Met Asp Asn Ile Cys Ile Gln Thr  
                     195                      200                      205  
 Asn Thr Ala Gly Lys Gly Gly Ala Ile Tyr Ala Gly Thr Ser Asn Ser  
 210                      215                      220  
 Phe Glu Ser Asn Asn Cys Asp Leu Phe Phe Ile Asn Asn Ala Cys Cys  
 225                      230                      235                      240  
 Ala Gly Gly Ala Ile Phe Ser Pro Ile Cys Ser Leu Thr Gly Asn Arg  
                     245                      250                      255  
 Gly Asn Ile Val Phe Tyr Asn Asn Arg Cys Phe Lys Asn Val Glu Thr  
                     260                      265                      270  
 Ala Ser Ser Glu Ala Ser Asp Gly Gly Ala Ile Lys Val Thr Thr Arg  
                     275                      280                      285  
 Leu Asp Val Thr Gly Asn Arg Gly Arg Ile Phe Phe Ser Asp Asn Ile  
 290                      295                      300  
 Thr Lys Asn Tyr Gly Gly Ala Ile Tyr Ala Pro Val Val Thr Leu Val  
 305                      310                      315                      320  
 Asp Asn Gly Pro Thr Tyr Phe Ile Asn Asn Ile Ala Asn Asn Lys Gly

					325										335
Gly	Ala	Ile	Tyr	Ile	Asp	Gly	Thr	Ser	Asn	Ser	Lys	Ile	Ser	Ala	Asp
			340					345					350		
Arg	His	Ala	Ile	Ile	Phe	Asn	Glu	Asn	Ile	Val	Thr	Asn	Val	Thr	Asn
		355					360					365			
Ala	Asn	Gly	Thr	Ser	Thr	Ser	Ala	Asn	Pro	Pro	Arg	Arg	Asn	Ala	Ile
	370					375					380				
Thr	Val	Ala	Ser	Ser	Ser	Gly	Glu	Ile	Leu	Leu	Gly	Ala	Gly	Ser	Ser
385					390					395					400
Gln	Asn	Leu	Ile	Phe	Tyr	Asp	Pro	Ile	Glu	Val	Ser	Asn	Ala	Gly	Val
			405						410					415	
Ser	Val	Ser	Phe	Asn	Lys	Glu	Ala	Asp	Gln	Thr	Gly	Ser	Val	Val	Phe
			420					425					430		
Ser	Gly	Ala	Thr	Val	Asn	Ser	Ala	Asp	Phe	His	Gln	Arg	Asn	Leu	Gln
	435						440					445			
Thr	Lys	Thr	Pro	Ala	Pro	Leu	Thr	Leu	Ser	Asn	Gly	Phe	Leu	Cys	Ile
	450					455					460				
Glu	Asp	His	Ala	Gln	Leu	Thr	Val	Asn	Arg	Phe	Thr	Gln	Thr	Gly	Gly
465					470					475					480
Val	Val	Ser	Leu	Gly	Asn	Gly	Ala	Val	Leu	Ser	Cys	Tyr	Lys	Asn	Gly
			485						490					495	
Thr	Gly	Asp	Ser	Ala	Ser	Asn	Ala	Ser	Ile	Thr	Leu	Lys	His	Ile	Gly
		500					505						510		
Leu	Asn	Leu	Ser	Ser	Ile	Leu	Lys	Ser	Gly	Ala	Glu	Ile	Pro	Leu	Leu
	515						520					525			
Trp	Val	Glu	Pro	Thr	Asn	Asn	Ser	Asn	Asn	Tyr	Thr	Ala	Asp	Thr	Ala
	530					535					540				
Ala	Thr	Phe	Ser	Leu	Ser	Asp	Val	Lys	Leu	Ser	Leu	Ile	Asp	Asp	Tyr
545					550					555					560
Gly	Asn	Ser	Pro	Tyr	Glu	Ser	Thr	Asp	Leu	Thr	His	Ala	Leu	Ser	Ser
			565					570						575	
Gln	Pro	Met	Leu	Ser	Ile	Ser	Glu	Ala	Ser	Asp	Asn	Gln	Leu	Gln	Ser
			580					585					590		
Glu	Asn	Ile	Asp	Phe	Ser	Gly	Leu	Asn	Val	Pro	His	Tyr	Gly	Trp	Gln
	595					600						605			
Gly	Leu	Trp	Thr	Trp	Gly	Trp	Ala	Lys	Thr	Gln	Asp	Pro	Glu	Pro	Ala
	610					615					620				
Ser	Ser	Ala	Thr	Ile	Thr	Asp	Pro	Gln	Lys	Ala	Asn	Arg	Phe	His	Arg
625					630					635					640
Thr	Leu	Leu	Leu	Thr	Trp	Leu	Pro	Ala	Gly	Tyr	Val	Pro	Ser	Pro	Lys
			645					650						655	
His	Arg	Ser	Pro	Leu	Ile	Ala	Asn	Thr	Leu	Trp	Gly	Asn	Met	Leu	Leu

Glu Gly Phe Leu Leu Thr Lys Leu Val Gly Leu Tyr Ser Tyr Gly Asp  
 770 775 780  
 His Asn Cys His His Phe Tyr Thr Gln Gly Glu Asn Leu Thr Ser Gln  
 785 790 795 800  
 Gly Thr Phe Arg Ser Gln Thr Met Gly Gly Ala Val Phe Phe Asp Leu  
 805 810 815  
 Pro Met Lys Pro Phe Gly Ser Thr His Ile Leu Thr Ala Pro Phe Leu  
 820 825 830  
 Gly Ala Leu Gly Ile Tyr Ser Ser Leu Ser His Phe Thr Glu Val Gly  
 835 840 845  
 Ala Tyr Pro Arg Ser Phe Ser Thr Lys Thr Pro Leu Ile Asn Val Leu  
 850 855 860  
 Val Pro Ile Gly Val Lys Gly Ser Phe Met Asn Ala Thr His Arg Pro  
 865 870 875 880  
 Gln Ala Trp Thr Val Glu Leu Ala Tyr Gln Pro Val Leu Tyr Arg Gln  
 885 890 895  
 Glu Pro Gly Ile Ala Thr Gln Leu Leu Ala Ser Lys Gly Ile Trp Phe  
 900 905 910  
 Gly Ser Gly Ser Pro Ser Ser Arg His Ala Met Ser Tyr Lys Ile Ser  
 915 920 925  
 Gln Gln Thr Gln Pro Leu Ser Trp Leu Thr Leu His Phe Gln Tyr His  
 930 935 940  
 Gly Phe Tyr Ser Ser Ser Thr Phe Cys Asn Tyr Leu Asn Gly Glu Ile  
 945 950 955 960  
 Ala Leu Arg Phe

<210> 178  
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 <212> PRT  
 <213> Chlamydia

<400> 178

Met Ser Ser Glu Lys Asp Ile Lys Ser Thr Cys Ser Lys Phe Ser Leu  
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 Ser Val Val Ala Ala Ile Leu Ala Ser Val Ser Gly Leu Ala Ser Cys  
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 Val Asp Leu His Ala Gly Gly Gln Ser Val Asn Glu Leu Val Tyr Val  
 35 40 45  
 Gly Pro Gln Ala Val Leu Leu Leu Asp Gln Ile Arg Asp Leu Phe Val  
 50 55 60  
 Gly Ser Lys Asp Ser Gln Ala Glu Gly Gln Tyr Arg Leu Ile Val Gly  
 65 70 75 80  
 Asp Pro Ser Ser Phe Gln Glu Lys Asp Ala Asp Thr Leu Pro Gly Lys  
 85 90 95  
 Val Glu Gln Ser Thr Leu Phe Ser Val Thr Asn Pro Val Val Phe Gln  
 100 105 110  
 Gly Val Asp Gln Gln Asp Gln Val Ser Ser Gln Gly Leu Ile Cys Ser  
 115 120 125  
 Phe Thr Ser Ser Asn Leu Asp Ser Pro Arg Asp Gly Glu Ser Phe Leu  
 130 135 140  
 Gly Ile Ala Phe Val Gly Asp Ser Ser Lys Ala Gly Ile Thr Leu Thr  
 145 150 155 160  
 Asp Val Lys Ala Ser Leu Ser Gly Ala Ala Leu Tyr Ser Thr Glu Asp  
 165 170 175

Leu Ile Phe Glu Lys Ile Lys Gly Gly Leu Glu Phe Ala Ser Cys Ser  
 180 185 190  
 Ser Leu Glu Gln Gly Gly Ala Cys Ala Ala Gln Ser Ile Leu Ile His  
 195 200 205  
 Asp Cys Gln Gly Leu Gln Val Lys His Cys Thr Thr Ala Val Asn Ala  
 210 215 220  
 Glu Gly Ser Ser Ala Asn Asp His Leu Gly Phe Gly Gly Gly Ala Phe  
 225 230 235 240  
 Phe Val Thr Gly Ser Leu Ser Gly Glu Lys Ser Leu Tyr Met Pro Ala  
 245 250 255  
 Gly Asp Met Val Val Ala Asn Cys Asp Gly Ala Ile Ser Phe Glu Gly  
 260 265 270  
 Asn Ser Ala Asn Phe Ala Asn Gly Gly Ala Ile Ala Ala Ser Gly Lys  
 275 280 285  
 Val Leu Phe Val Ala Asn Asp Lys Lys Thr Ser Phe Ile Glu Asn Arg  
 290 295 300  
 Ala Leu Ser Gly Gly Ala Ile Ala Ala Ser Ser Asp Ile Ala Phe Gln  
 305 310 315 320  
 Asn Cys Ala Glu Leu Val Phe Lys Gly Asn Cys Ala Ile Gly Thr Glu  
 325 330 335  
 Asp Lys Gly Ser Leu Gly Gly Gly Ala Ile Ser Ser Leu Gly Thr Val  
 340 345 350  
 Leu Leu Gln Gly Asn His Gly Ile Thr Cys Asp Lys Asn Glu Ser Ala  
 355 360 365  
 Ser Gln Gly Gly Ala Ile Phe Gly Lys Asn Cys Gln Ile Ser Asp Asn  
 370 375 380  
 Glu Gly Pro Val Val Phe Arg Asp Ser Thr Ala Cys Leu Gly Gly Gly  
 385 390 395 400  
 Ala Ile Ala Ala Gln Glu Ile Val Ser Ile Gln Asn Asn Gln Ala Gly  
 405 410 415  
 Ile Ser Phe Glu Gly Gly Lys Ala Ser Phe Gly Gly Gly Ile Ala Cys  
 420 425 430  
 Gly Ser Phe Ser Ser Ala Gly Gly Ala Ser Val Leu Gly Thr Ile Asp  
 435 440 445  
 Ile Ser Lys Asn Leu Gly Ala Ile Ser Phe Ser Arg Thr Leu Cys Thr  
 450 455 460  
 Thr Ser Asp Leu Gly Gln Met Glu Tyr Gln Gly Gly Gly Ala Leu Phe  
 465 470 475 480  
 Gly Glu Asn Ile Ser Leu Ser Glu Asn Ala Gly Val Leu Thr Phe Lys  
 485 490 495  
 Asp Asn Ile Val Lys Thr Phe Ala Ser Asn Gly Lys Ile Leu Gly Gly  
 500 505 510  
 Gly Ala Ile Leu Ala Thr Gly Lys Val Glu Ile Thr Asn Asn Ser Gly  
 515 520 525  
 Gly Ile Ser Phe Thr Gly Asn Ala Arg Ala Pro Gln Ala Leu Pro Thr  
 530 535 540  
 Gln Glu Glu Phe Pro Leu Phe Ser Lys Lys Glu Gly Arg Pro Leu Ser  
 545 550 555 560  
 Ser Gly Tyr Ser Gly Gly Gly Ala Ile Leu Gly Arg Glu Val Ala Ile  
 565 570 575  
 Leu His Asn Ala Ala Val Val Phe Glu Gln Asn Arg Leu Gln Cys Ser  
 580 585 590  
 Glu Glu Glu Ala Thr Leu Leu Gly Cys Cys Gly Gly Gly Ala Val His  
 595 600 605  
 Gly Met Asp Ser Thr Ser Ile Val Gly Asn Ser Ser Val Arg Phe Gly

610	615	620
Asn Asn Tyr Ala Met Gly Gln Gly Val Ser Gly Gly Ala Leu Leu Ser		
625	630	635
Lys Thr Val Gln Leu Ala Gly Asn Gly Ser Val Asp Phe Ser Arg Asn		640
	645	650
Ile Ala Ser Leu Gly Gly Gly Ala Leu Gln Ala Ser Glu Gly Asn Cys		655
	660	665
Glu Leu Val Asp Asn Gly Tyr Val Leu Phe Arg Asp Asn Arg Gly Arg		670
	675	680
Val Tyr Gly Gly Ala Ile Ser Cys Leu Arg Gly Asp Val Val Ile Ser		685
	690	695
Gly Asn Lys Gly Arg Val Glu Phe Lys Asp Asn Ile Ala Thr Arg Leu		700
705	710	715
Tyr Val Glu Glu Thr Val Glu Lys Val Glu Glu Val Glu Pro Ala Pro		720
	725	730
Glu Gln Lys Asp Asn Asn Glu Leu Ser Phe Leu Gly Ser Val Glu Gln		735
	740	745
Ser Phe Ile Thr Ala Ala Asn Gln Ala Leu Phe Ala Ser Glu Asp Gly		750
	755	760
Asp Leu Ser Pro Glu Ser Ser Ile Ser Ser Glu Glu Leu Ala Lys Arg		765
	770	775
Arg Glu Cys Ala Gly Gly Ala Ile Phe Ala Lys Arg Val Arg Ile Val		780
785	790	795
Asp Asn Gln Glu Ala Val Val Phe Ser Asn Asn Phe Ser Asp Ile Tyr		800
	805	810
Gly Gly Ala Ile Phe Thr Gly Ser Leu Arg Glu Glu Asp Lys Leu Asp		815
	820	825
Gly Gln Ile Pro Glu Val Leu Ile Ser Gly Asn Ala Gly Asp Val Val		830
	835	840
Phe Ser Gly Asn Ser Ser Lys Arg Asp Glu His Leu Pro His Thr Gly		845
	850	855
Gly Gly Ala Ile Cys Thr Gln Asn Leu Thr Ile Ser Gln Asn Thr Gly		860
865	870	875
Asn Val Leu Phe Tyr Asn Asn Val Ala Cys Ser Gly Gly Ala Val Arg		880
	885	890
Ile Glu Asp His Gly Asn Val Leu Leu Glu Ala Phe Gly Gly Asp Ile		895
	900	905
Val Phe Lys Gly Asn Ser Ser Phe Arg Ala Gln Gly Ser Asp Ala Ile		910
	915	920
Tyr Phe Ala Gly Lys Glu Ser His Ile Thr Ala Leu Asn Ala Thr Glu		925
	930	935
Gly His Ala Ile Val Phe His Asp Ala Leu Val Phe Glu Asn Leu Lys		940
945	950	955
Glu Arg Lys Ser Ala Glu Val Leu Leu Ile Asn Ser Arg Glu Asn Pro		960
	965	970
Gly Tyr Thr Gly Ser Ile Arg Phe Leu Glu Ala Glu Ser Lys Val Pro		975
	980	985
Gln Cys Ile His Val Gln Gln Gly Ser Leu Glu Leu Leu Asn Gly Ala		990
	995	1000
Thr Leu Cys Ser Tyr Gly Phe Lys Gln Asp Ala Gly Ala Lys Leu Val		1005
	1010	1015
Leu Ala Ala Gly Ser Lys Leu Lys Ile Leu Asp Ser Gly Thr Pro Val		1020
1025	1030	1035
Gln Gly His Ala Ile Ser Lys Pro Glu Ala Glu Ile Glu Ser Ser Ser		1040
	1045	1050
		1055

Glu	Pro	Glu	Gly	Ala	His	Ser	Leu	Trp	Ile	Ala	Lys	Asn	Ala	Gln	Thr
				1060					1065					1070	
Thr	Val	Pro	Met	Val	Asp	Ile	His	Thr	Ile	Ser	Val	Asp	Leu	Ala	Ser
			1075					1080					1085		
Phe	Ser	Ser	Ser	Gln	Gln	Glu	Gly	Thr	Val	Glu	Ala	Pro	Gln	Val	Ile
			1090				1095					1100			
Val	Pro	Gly	Gly	Ser	Tyr	Val	Arg	Ser	Gly	Glu	Leu	Asn	Leu	Glu	Leu
1105					1110					1115					1120
Val	Asn	Thr	Thr	Gly	Thr	Gly	Tyr	Glu	Asn	His	Ala	Leu	Leu	Lys	Asn
				1125					1130					1135	
Glu	Ala	Lys	Val	Pro	Leu	Met	Ser	Phe	Val	Ala	Ser	Ser	Asp	Glu	Ala
			1140					1145					1150		
Ser	Ala	Glu	Ile	Ser	Asn	Leu	Ser	Val	Ser	Asp	Leu	Gln	Ile	His	Val
			1155					1160					1165		
Ala	Thr	Pro	Glu	Ile	Glu	Glu	Asp	Thr	Tyr	Gly	His	Met	Gly	Asp	Trp
			1170				1175					1180			
Ser	Glu	Ala	Lys	Ile	Gln	Asp	Gly	Thr	Leu	Val	Ile	Asn	Trp	Asn	Pro
1185					1190					1195					1200
Thr	Gly	Tyr	Arg	Leu	Asp	Pro	Gln	Lys	Ala	Gly	Ala	Leu	Val	Phe	Asn
				1205					1210					1215	
Ala	Leu	Trp	Glu	Glu	Gly	Ala	Val	Leu	Ser	Ala	Leu	Lys	Asn	Ala	Arg
			1220					1225					1230		
Phe	Ala	His	Asn	Leu	Thr	Ala	Gln	Arg	Met	Glu	Phe	Asp	Tyr	Ser	Thr
			1235				1240					1245			
Asn	Val	Trp	Gly	Phe	Ala	Phe	Gly	Gly	Phe	Arg	Thr	Leu	Ser	Ala	Glu
			1250				1255				1260				
Asn	Leu	Val	Ala	Ile	Asp	Gly	Tyr	Lys	Gly	Ala	Tyr	Gly	Gly	Ala	Ser
1265					1270					1275					1280
Ala	Gly	Val	Asp	Ile	Gln	Leu	Met	Glu	Asp	Phe	Val	Leu	Gly	Val	Ser
			1285						1290					1295	
Gly	Ala	Ala	Phe	Leu	Gly	Lys	Met	Asp	Ser	Gln	Lys	Phe	Asp	Ala	Glu
			1300					1305					1310		
Val	Ser	Arg	Lys	Gly	Val	Val	Gly	Ser	Val	Tyr	Thr	Gly	Phe	Leu	Ala
			1315				1320					1325			
Gly	Ser	Trp	Phe	Phe	Lys	Gly	Gln	Tyr	Ser	Leu	Gly	Glu	Thr	Gln	Asn
			1330			1335					1340				
Asp	Met	Lys	Thr	Arg	Tyr	Gly	Val	Leu	Gly	Glu	Ser	Ser	Ala	Ser	Trp
1345					1350					1355					1360
Thr	Ser	Arg	Gly	Val	Leu	Ala	Asp	Ala	Leu	Val	Glu	Tyr	Arg	Ser	Leu
			1365						1370					1375	
Val	Gly	Pro	Val	Arg	Pro	Thr	Phe	Tyr	Ala	Leu	His	Phe	Asn	Pro	Tyr
			1380					1385					1390		
Val	Glu	Val	Ser	Tyr	Ala	Ser	Met	Lys	Phe	Pro	Gly	Phe	Thr		

1490		1495		1500
Thr Ala Phe Cys Gly Gly Phe Thr Ser Thr Asp Ser Lys Leu Gly Tyr				
1505		1510		1515
Glu Ala Asn Thr Gly Leu Arg Leu Ile Phe				1520
	1525		1530	

<210> 179  
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 <212> PRT  
 <213> Chlamydia

<400> 179

Ala	Ile	Met	Lys	Phe	Met	Ser	Ala	Thr	Ala	Val	Phe	Ala	Ala	Val	Leu
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Ser	Ser	Val	Thr	Glu	Ala	Ser	Ser	Ile	Gln	Asp	Gln	Ile	Lys	Asn	Thr
		20						25					30		
Asp	Cys	Asn	Val	Ser	Lys	Val	Gly	Tyr	Ser	Thr	Ser	Gln	Ala	Phe	Thr
	35						40					45			
Asp	Met	Met	Leu	Ala	Asp	Asn	Thr	Glu	Tyr	Arg	Ala	Ala	Asp	Ser	Val
	50					55				60					
Ser	Phe	Tyr	Asp	Phe	Ser	Thr	Ser	Ser	Gly	Leu	Pro	Arg	Lys	His	Leu
65					70					75					80
Ser	Ser	Ser	Ser	Glu	Ala	Ser	Pro	Thr	Thr	Glu	Gly	Val	Ser	Ser	Ser
				85					90					95	
Ser	Ser	Gly	Glu	Asn	Thr	Glu	Asn	Ser	Gln	Asp	Ser	Ala	Pro	Ser	Ser
		100						105					110		
Gly	Glu	Thr	Asp	Lys	Lys	Thr	Glu	Glu	Glu	Leu	Asp	Asn	Gly	Gly	Ile
	115						120					125			
Ile	Tyr	Ala	Arg	Glu	Lys	Leu	Thr	Ile	Ser	Glu	Ser	Gln	Asp	Ser	Leu
	130				135						140				
Ser	Asn	Pro	Ser	Ile	Glu	Leu	His	Asp	Asn	Ser	Phe	Phe	Phe	Gly	Glu
145					150					155					160
Gly	Glu	Val	Ile	Phe	Asp	His	Arg	Val	Ala	Leu	Lys	Asn	Gly	Gly	Ala
				165					170					175	
Ile	Tyr	Gly	Glu	Lys	Glu	Val	Val	Phe	Glu	Asn	Ile	Lys	Ser	Leu	Leu
		180						185					190		
Val	Glu	Val	Asn	Ile	Ser	Val	Glu	Lys	Gly	Gly	Ser	Val	Tyr	Ala	Lys
		195					200					205			
Glu	Arg	Val	Ser	Leu	Glu	Asn	Val	Thr	Glu	Ala	Thr	Phe	Ser	Ser	Asn
	210					215					220				
Gly	Gly	Glu	Gln	Gly	Gly	Gly	Gly	Ile	Tyr	Ser	Glu	Gln	Asp	Met	Leu
225					230					235					240
Ile	Ser	Asp	Cys	Asn	Asn	Val	His	Phe	Gln	Gly	Asn	Ala	Ala	Gly	Ala
				245					250					255	
Thr	Ala	Val	Lys	Gln	Cys	Leu	Asp	Glu	Glu	Met	Ile	Val	Leu	Leu	Thr
		260						265					270		
Glu	Cys	Val	Asp	Ser	Leu	Ser	Glu	Asp	Thr	Leu	Asp	Ser	Thr	Pro	Glu
		275					280					285			
Thr	Glu	Gln	Thr	Lys	Ser	Asn	Gly	Asn	Gln	Asp	Gly	Ser	Ser	Glu	Thr
	290					295					300				
Lys	Asp	Thr	Gln	Val	Ser	Glu	Ser	Pro	Glu	Ser	Thr	Pro	Ser	Pro	Asp
305					310					315					320
Asp	Val	Leu	Gly	Lys	Gly	Gly	Gly	Ile	Tyr	Thr	Glu	Lys	Ser	Leu	Thr
				325					330					335	
Ile	Thr	Gly	Ile	Thr	Gly	Thr	Ile	Asp	Phe	Val	Ser	Asn	Ile	Ala	Thr

										340			345			350		
Asp	Ser	Gly	Ala	Gly	Val	Phe	Thr	Lys	Glu	Asn	Leu	Ser	Cys	Thr	Asn			
		355					360					365						
Thr	Asn	Ser	Leu	Gln	Phe	Leu	Lys	Asn	Ser	Ala	Gly	Gln	His	Gly	Gly			
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Glu	Ser	Val	Glu	Phe	Asp	Ala	Ile	Gly	Ser	Leu	Leu	Ser	His	Tyr	Asn			
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Gly Ile Ala Glu Gly Asn Ile Phe Thr Pro Pro Glu Leu Arg Ile Ile					
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Thr Pro Thr Thr Thr Pro Thr Ala Thr Thr Thr Ser Asn Gln Val					
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Gln Asn Pro Ala Leu Arg Ser Asp Gln Gln Ile Ser Leu Leu Val Leu					
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Pro Thr Asp Ser Ser Lys Met Gln Ala Gln Lys Ile Val Leu Thr Gly					
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Asp Ile Ala Pro Gln Lys Gly Tyr Thr Gly Thr Leu Thr Leu Asp Pro					
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Asp Gln Leu Gln Asn Gly Thr Ile Ser Ala Leu Trp Lys Phe Asp Ser					
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Ser Ile Leu Gly Ser Gln Met Ser Met Val Thr Val Lys Gln Gly Leu					
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Leu Asn Asp Lys Met Asn Leu Ala Arg Phe Asp Glu Val Ser Tyr Asn					
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Asn Leu Trp Ile Ser Gly Leu Gly Thr Met Leu Ser Gln Val Gly Thr					
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Lys Met Ile Gly Lys Thr Lys Ser Leu Lys Arg Glu Asn Asn Tyr Thr					
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His Lys Gly Ser Glu Tyr Ser Tyr Gln Ala Ser Val Tyr Gly Gly Lys					
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Ala Gln Gly Asp Thr Lys Arg Ile Thr Val Tyr Gly Glu Leu Glu Tyr					
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Gln	Gly	Glu	Leu	Leu	Phe	Thr	Asp	Leu	Thr	Ser	Leu	Thr	Ile	Gln	Asn	
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 Asn Lys Ala Thr Lys Asp Gly Gly Ala Ile Phe Ala Glu Lys Asp Val  
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 Glu Lys Gly Gly Ala Ile Tyr Ala Lys Gly Asp Leu Ser Ile Gln Ser  
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 Ser Lys Gln Ser Leu Phe Asn Ser Asn Tyr Ser Lys Gln Gly Gly Gly  
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 Arg Ile Lys Tyr Asn Lys Ala Gly Thr Phe Glu Thr Lys Lys Ile Thr  
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 Leu Pro Ser Leu Lys Ala Gln Ala Ser Ala Gly Asn Ala Asp Ala Trp  
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 Ala Ser Ser Ser Pro Gln Ser Gly Ser Gly Ala Thr Thr Val Ser Asp  
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 Ser Gly Asp Ser Ser Ser Gly Ser Asp Ser Asp Thr Ser Glu Thr Val  
 420 425 430  
 Pro Val Thr Ala Lys Gly Gly Gly Leu Tyr Thr Asp Lys Asn Leu Ser  
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 Ile Thr Asn Ile Thr Gly Ile Ile Glu Ile Ala Asn Asn Lys Ala Thr  
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 Asp Val Gly Gly Gly Ala Tyr Val Lys Gly Thr Leu Thr Cys Glu Asn  
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 Ser His Arg Leu Gln Phe Leu Lys Asn Ser Ser Asp Lys Gln Gly Gly  
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 Gly Ile Tyr Gly Glu Asp Asn Ile Thr Leu Ser Asn Leu Thr Gly Lys  
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 Thr Leu Phe Gln Glu Asn Thr Ala Lys Glu Glu Gly Gly Leu Phe  
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 Thr Lys Glu Ile Ser Gln Thr Tyr Thr Ser Asp Val Glu Thr Ile Pro  
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 Gly Ile Thr Pro Val His Gly Glu Thr Val Ile Thr Gly Asn Lys Ser  
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 Lys Glu Thr Gln Asp Pro Asn Ala Asp Thr Asp Leu Leu Ile Asp Tyr  
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Ser	Thr	Gly	Val	Ala	Thr	Thr	Ala	Ser	Ala	Pro	Ala	Ala	Ala	Ala
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Gly	Gln	Ile	Ala	Gly	Gly	Ala	Ile	Tyr	Ser	Pro	Thr	Val	Thr	Leu
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Cys	Pro	Ala	Thr	Phe	Ser	Asn	Asn	Thr	Ala	Ser	Ile	Ala	Thr	Pro
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Phe	Ser	Gly	Asn	Thr	Ala	Asp	Leu	Gly	Ala	Ala	Ile	Gly	Thr	Leu
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 Gly His Ile Lys His Asp Thr Thr Thr Leu Tyr Pro Ser Ile His Glu  
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 Arg Asn Lys Gly Asp Trp Glu Asp Leu Gly Trp Leu Ala Asp Leu Arg

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 Thr Glu Ile Asp Tyr Asp Pro Arg His Phe Asp Asp Cys Ala Tyr Arg  
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&lt;210&gt; 182

&lt;211&gt; 3021

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 182

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&lt;210&gt; 183

&lt;211&gt; 2934

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 183

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&lt;210&gt; 184

&lt;211&gt; 2547

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 184

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&lt;210&gt; 185

&lt;211&gt; 2337

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 185

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&lt;210&gt; 186

&lt;211&gt; 2847

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 186

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aactgcggtg	ctcgtatgac	attctaa				2847

&lt;210&gt; 187

&lt;211&gt; 2466

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 187

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tgcaatgtta	gcaaagtagg	atattcaact	tctcaagcat	ttactgatat	gatgctagca	120
gacaacacag	agatcgcagc	tgctgatagt	gtttcattct	atgacttttc	gacatcttcc	180
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gaaactgata	agaaaacaga	agaagaacta	gacaatggcg	gaatcattta	tgctagagag	360
aaactaacta	tctcagaatc	tcaggactct	ctctctaate	caagcataga	actccatgac	420
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ggaggagcta	tttatggaga	gaaagaggta	gtctttgaaa	acataaaaatc	tctactagta	540
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atctga

2466

&lt;210&gt; 188

&lt;211&gt; 1578

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 188

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ggcgacgtga	tcaccgcggt	cgacggcgct	ccgatcaact	cggccaccgc	gatggcggac	300
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gacaaatggt	caatcactgg	tgaagcacgc	ttaatcaatg	aaagagctgc	tcacatgaat	1560
gcacaatttc	gcttctaa					1578

&lt;210&gt; 189

&lt;211&gt; 866

&lt;212&gt; PRT

&lt;213&gt; Chlamydia

&lt;220&gt;

&lt;221&gt; VARIANT

&lt;222&gt; (1)...(866)

&lt;223&gt; Xaa = Any Amino Acid

&lt;400&gt; 189

Met	Ala	Ser	His	His	His	His	His	His	Leu	Phe	Gly	Gln	Asp	Pro	Leu
1				5					10					15	
Gly	Glu	Thr	Ala	Leu	Leu	Thr	Lys	Asn	Pro	Asn	His	Val	Val	Cys	Thr
			20					25				30			
Phe	Phe	Glu	Asp	Cys	Thr	Met	Glu	Ser	Leu	Phe	Pro	Ala	Leu	Cys	Ala
		35				40					45				
His	Ala	Ser	Gln	Asp	Asp	Pro	Leu	Tyr	Val	Leu	Gly	Asn	Ser	Tyr	Cys
50						55					60				

Trp Phe Val Ser Lys Leu His Ile Thr Asp Pro Lys Glu Ala Leu Phe  
 65 70 75 80  
 Lys Glu Lys Gly Asp Leu Ser Ile Gln Asn Phe Arg Phe Leu Ser Phe  
 85 90 95  
 Thr Asp Cys Ser Ser Lys Glu Ser Ser Pro Ser Ile Ile His Gln Lys  
 100 105 110  
 Asn Gly Gln Leu Ser Leu Arg Asn Asn Gly Ser Met Ser Phe Cys Arg  
 115 120 125  
 Asn His Ala Glu Gly Ser Gly Gly Ala Ile Ser Ala Asp Ala Phe Ser  
 130 135 140  
 Leu Gln His Asn Tyr Leu Phe Thr Ala Phe Glu Glu Asn Ser Ser Lys  
 145 150 155 160  
 Gly Asn Gly Gly Ala Ile Gln Ala Gln Thr Phe Ser Leu Ser Arg Asn  
 165 170 175  
 Val Ser Pro Ile Ser Phe Ala Arg Asn Arg Ala Asp Leu Asn Gly Gly  
 180 185 190  
 Ala Ile Cys Cys Ser Asn Leu Ile Cys Ser Gly Asn Val Asn Pro Leu  
 195 200 205  
 Phe Phe Thr Gly Asn Ser Ala Thr Asn Gly Gly Xaa Ile Cys Cys Ile  
 210 215 220  
 Ser Asp Leu Asn Thr Ser Glu Lys Gly Ser Leu Ser Leu Ala Cys Asn  
 225 230 235 240  
 Gln Xaa Thr Leu Phe Ala Ser Asn Ser Ala Lys Glu Lys Gly Gly Ala  
 245 250 255  
 Ile Tyr Ala Lys His Met Val Leu Arg Tyr Asn Gly Pro Val Ser Phe  
 260 265 270  
 Ile Asn Asn Ser Ala Lys Ile Gly Gly Ala Ile Ala Ile Gln Ser Gly  
 275 280 285  
 Gly Ser Leu Ser Ile Leu Ala Gly Glu Gly Ser Val Leu Phe Gln Asn  
 290 295 300  
 Asn Ser Gln Arg Thr Ser Asp Gln Gly Leu Val Arg Asn Ala Ile Tyr  
 305 310 315 320  
 Leu Glu Lys Asp Ala Ile Leu Ser Ser Leu Glu Ala Arg Asn Gly Asp  
 325 330 335  
 Ile Leu Phe Phe Asp Pro Ile Val Gln Glu Ser Ser Ser Lys Glu Ser  
 340 345 350  
 Pro Leu Pro Ser Ser Leu Gln Ala Ser Val Thr Ser Pro Thr Pro Ala  
 355 360 365  
 Thr Ala Ser Pro Leu Val Ile Gln Thr Ser Ala Asn Arg Ser Val Ile  
 370 375 380  
 Phe Ser Ser Glu Arg Leu Ser Glu Glu Glu Lys Thr Pro Asp Asn Leu  
 385 390 395 400  
 Thr Ser Gln Leu Gln Gln Pro Ile Glu Leu Lys Ser Gly Arg Leu Val  
 405 410 415  
 Leu Lys Asp Arg Ala Val Leu Ser Xaa Pro Ser Leu Ser Gln Asp Pro  
 420 425 430  
 Gln Ala Leu Ile Met Glu Ala Gly Thr Ser Leu Lys Thr Ser Xaa  
 435 440 445  
 Asp Leu Lys Leu Xaa Thr Xaa Ser Ile Pro Leu His Ser Leu Asp Thr  
 450 455 460  
 Glu Lys Ser Val Thr Ile His Ala Pro Asn Leu Ser Ile Gln Lys Ile  
 465 470 475 480  
 Phe Leu Ser Asn Ser Gly Asp Glu Asn Phe Tyr Glu Asn Val Glu Leu  
 485 490 495  
 Leu Ser Lys Glu Gln Asn Asn Ile Pro Leu Leu Thr Leu Pro Lys Glu

			500					505					510				
Gln	Ser	His	Leu	His	Leu	Pro	Asp	Gly	Asn	Leu	Ser	Ser	His	Phe	Gly		
		515					520					525					
Tyr	Gln	Gly	Asp	Trp	Thr	Phe	Ser	Trp	Lys	Asp	Ser	Asp	Glu	Gly	His		
	530					535					540						
Ser	Leu	Ile	Ala	Asn	Trp	Thr	Pro	Lys	Asn	Tyr	Val	Pro	His	Pro	Glu		
545				550					555						560		
Arg	Gln	Ser	Thr	Leu	Val	Ala	Asn	Thr	Leu	Trp	Asn	Thr	Tyr	Ser	Asp		
			565						570						575		
Met	Gln	Ala	Val	Gln	Ser	Met	Ile	Asn	Thr	Thr	Ala	His	Gly	Gly	Ala		
		580						585					590				
Tyr	Leu	Phe	Gly	Thr	Trp	Gly	Ser	Ala	Val	Ser	Asn	Leu	Phe	Tyr	Val		
	595					600					605						
His	Asp	Ser	Ser	Gly	Lys	Pro	Ile	Asp	Asn	Trp	His	His	Arg	Ser	Leu		
	610					615					620						
Gly	Tyr	Leu	Phe	Gly	Ile	Ser	Thr	His	Ser	Leu	Asp	Asp	His	Ser	Phe		
625				630						635					640		
Cys	Leu	Ala	Ala	Gly	Gln	Leu	Leu	Gly	Lys	Ser	Ser	Asp	Ser	Phe	Ile		
			645					650						655			
Thr	Ser	Thr	Glu	Thr	Thr	Ser	Tyr	Ile	Ala	Thr	Val	Gln	Ala	Gln	Leu		
		660						665					670				
Ala	Thr	Ser	Leu	Met	Lys	Ile	Ser	Ala	Gln	Ala	Cys	Tyr	Asn	Glu	Ser		
	675						680					685					
Ile	His	Glu	Leu	Lys	Thr	Lys	Tyr	Arg	Ser	Phe	Ser	Lys	Glu	Gly	Phe		
	690					695					700						
Gly	Ser	Trp	His	Ser	Val	Ala	Val	Ser	Gly	Glu	Val	Cys	Ala	Ser	Ile		
705				710					715					720			
Pro	Ile	Val	Ser	Asn	Gly	Ser	Gly	Leu	Phe	Ser	Ser	Phe	Ser	Ile	Phe		
			725					730						735			
Ser	Lys	Leu	Gln	Gly	Phe	Ser	Gly	Thr	Gln	Asp	Gly	Phe	Glu	Glu	Ser		
		740						745					750				
Ser	Gly	Glu	Ile	Arg	Ser	Phe	Ser	Ala	Ser	Ser	Phe	Arg	Asn	Ile	Ser		
	755						760					765					
Leu	Pro	Ile	Gly	Ile	Thr	Phe	Glu	Lys	Lys	Ser	Gln	Lys	Thr	Arg	Thr		
	770					775					780						
Tyr	Tyr	Tyr	Phe	Leu	Gly	Ala	Tyr	Ile	Gln	Asp	Leu	Lys	Arg	Asp	Val		
785				790					795					800			
Glu	Ser	Gly	Pro	Val	Val	Leu	Leu	Lys	Asn	Ala	Val	Ser	Trp	Asp	Ala		
			805						810					815			
Pro	Met	Ala	Asn	Leu	Asp	Ser	Arg	Ala	Tyr	Met	Phe	Arg	Leu	Thr	Asn		
		820						825					830				
Gln	Arg	Ala	Leu	His	Arg	Leu	Gln	Thr	Leu	Leu	Asn	Val	Ser	Cys	Val		
	835						840					845					
Leu	Arg	Gly	Gln	Ser	His	Ser	Tyr	Ser	Leu	Asp	Leu	Gly	Thr	Thr	Tyr		
	850					855					860						
Arg	Phe																
865																	

&lt;210&gt; 190

&lt;211&gt; 1006

&lt;212&gt; PRT

&lt;213&gt; Chlamydia

&lt;400&gt; 190

Met Ala Ser Met Thr Gly Gly Gln Gln Met Gly Arg Asp Ser Ser Leu

1	5	10	15
Val	Pro	His	His
	20		
Gly	Glu	Thr	Leu
	35		
Ser	Gly	Thr	Thr
	50		
Asp	Asn	Ser	Ile
65			
Gly	Ser	Phe	Thr
	85		
Ile	Arg	Thr	Ser
	100		
Gly	Leu	Phe	Thr
	115		
Asn	Ser	Leu	Leu
	130		
Gln	Thr	Pro	Thr
145			
Lys	Thr	Asp	Leu
	165		
Asn	Leu	Val	Ser
	180		
Val	Gln	Gly	Ile
	195		
Ala	Asp	Gly	Gly
	210		
Asn	Glu	Ala	Pro
225			
Gly	Gly	Ile	Ala
	245		
Thr	Ser	Thr	Glu
	260		
Glu	Phe	Asp	Gly
	275		
Gly	Asn	Val	Ala
	290		
Val	Ala	Ser	Pro
305			
Ala	Ser	Asn	Thr
	325		
Lys	Asn	Gly	Ala
	340		
Asp	Gly	Glu	Gly
	355		
Gly	Gly	Ala	Ile
	370		
Val	Gln	Phe	Leu
385			
Gly	Glu	Ser	Gly
	405		
Phe	Asp	Gly	Asn
	420		
Asn	Gly	Val	Thr
	435		

Lys	Ile	Thr	Thr	Leu	Arg	Ala	Lys	Ala	Gly	His	Gln	Ile	Leu	Phe	Asn
450						455					460				
Asp	Pro	Ile	Glu	Met	Ala	Asn	Gly	Asn	Asn	Gln	Pro	Ala	Gln	Ser	Ser
465					470					475					480
Lys	Leu	Leu	Lys	Ile	Asn	Asp	Gly	Glu	Gly	Tyr	Thr	Gly	Asp	Ile	Val
				485					490					495	
Phe	Ala	Asn	Gly	Ser	Ser	Thr	Leu	Tyr	Gln	Asn	Val	Thr	Ile	Glu	Gln
			500					505					510		
Gly	Arg	Ile	Val	Leu	Arg	Glu	Lys	Ala	Lys	Leu	Ser	Val	Asn	Ser	Leu
		515					520					525			
Ser	Gln	Thr	Gly	Gly	Ser	Leu	Tyr	Met	Glu	Ala	Gly	Ser	Thr	Leu	Asp
	530					535					540				
Phe	Val	Thr	Pro	Gln	Pro	Pro	Gln	Gln	Pro	Pro	Ala	Ala	Asn	Gln	Leu
545					550					555					560
Ile	Thr	Leu	Ser	Asn	Leu	His	Leu	Ser	Leu	Ser	Ser	Leu	Leu	Ala	Asn
				565					570						575
Asn	Ala	Val	Thr	Asn	Pro	Pro	Thr	Asn	Pro	Pro	Ala	Gln	Asp	Ser	His
			580					585					590		
Pro	Ala	Val	Ile	Gly	Ser	Thr	Thr	Ala	Gly	Ser	Val	Thr	Ile	Ser	Gly
		595					600					605			
Pro	Ile	Phe	Phe	Glu	Asp	Leu	Asp	Asp	Thr	Ala	Tyr	Asp	Arg	Tyr	Asp
	610					615					620				
Trp	Leu	Gly	Ser	Asn	Gln	Lys	Ile	Asn	Val	Leu	Lys	Leu	Gln	Leu	Gly
625					630					635					640
Thr	Lys	Pro	Pro	Ala	Asn	Ala	Pro	Ser	Asp	Leu	Thr	Leu	Gly	Asn	Glu
				645					650					655	
Met	Pro	Lys	Tyr	Gly	Tyr	Gln	Gly	Ser	Trp	Lys	Leu	Ala	Trp	Asp	Pro
			660					665					670		
Asn	Thr	Ala	Asn	Asn	Gly	Pro	Tyr	Thr	Leu	Lys	Ala	Thr	Trp	Thr	Lys
		675					680					685			
Thr	Gly	Tyr	Asn	Pro	Gly	Pro	Glu	Arg	Val	Ala	Ser	Leu	Val	Pro	Asn
	690					695					700				
Ser	Leu	Trp	Gly	Ser	Ile	Leu	Asp	Ile	Arg	Ser	Ala	His	Ser	Ala	Ile
705					710				715						720
Gln	Ala	Ser	Val	Asp	Gly	Arg	Ser	Tyr	Cys	Arg	Gly	Leu	Trp	Val	Ser
				725					730					735	
Gly	Val	Ser	Asn	Phe	Phe	Tyr	His	Asp	Arg	Asp	Ala	Leu	Gly	Gln	Gly
			740					745					750		
Tyr	Arg	Tyr	Ile	Ser	Gly	Gly	Tyr	Ser	Leu	Gly	Ala	Asn	Ser	Tyr	Phe
		755					760					765			
Gly	Ser	Ser	Met	Phe	Gly	Leu	Ala	Phe	Thr	Glu	Val	Phe	Gly	Arg	Ser
	770					775					780				
Lys	Asp	Tyr	Val	Val	Cys	Arg	Ser	Asn	His	His	Ala	Cys	Ile	Gly	Ser
785					790					795					800
Val	Tyr	Leu	Ser	Thr	Gln	Gln	Ala	Leu	Cys	Gly	Ser	Tyr	Leu	Phe	Gly
				805					810					815	
Asp	Ala	Phe	Ile	Arg	Ala	Ser	Tyr	Gly	Phe	Gly	Asn	Gln	His	Met	Lys
		820						825					830		
Thr	Ser	Tyr	Thr	Phe	Ala	Glu	Glu	Ser	Asp	Val	Arg	Trp	Asp	Asn	Asn
		835					840					845			
Cys	Leu	Ala	Gly	Glu	Ile	Gly	Ala	Gly	Leu	Pro	Ile	Val	Ile	Thr	Pro
	850					855					860				
Ser	Lys	Leu	Tyr	Leu	Asn	Glu	Leu	Arg	Pro	Phe	Val	Gln	Ala	Glu	Phe
865					870					875					880
Ser	Tyr	Ala	Asp	His	Glu	Ser	Phe	Thr	Glu	Glu	Gly	Asp	Gln	Ala	Arg

				885					890					895			
Ala	Phe	Lys	Ser	Gly	His	Leu	Leu	Asn	Leu	Ser	Val	Pro	Val	Gly	Val		
			900					905					910				
Lys	Phe	Asp	Arg	Cys	Ser	Ser	Thr	His	Pro	Asn	Lys	Tyr	Ser	Phe	Met		
		915					920					925					
Ala	Ala	Tyr	Ile	Cys	Asp	Ala	Tyr	Arg	Thr	Ile	Ser	Gly	Thr	Glu	Thr		
	930					935					940						
Thr	Leu	Leu	Ser	His	Gln	Glu	Thr	Trp	Thr	Thr	Asp	Ala	Phe	His	Leu		
945					950					955					960		
Ala	Arg	His	Gly	Val	Val	Val	Arg	Gly	Ser	Met	Tyr	Ala	Ser	Leu	Thr		
			965					970						975			
Ser	Asn	Ile	Glu	Val	Tyr	Gly	His	Gly	Arg	Tyr	Glu	Tyr	Arg	Asp	Ala		
		980						985					990				
Ser	Arg	Gly	Tyr	Gly	Leu	Ser	Ala	Gly	Ser	Lys	Val	Arg	Phe				
		995					1000					1005					

&lt;210&gt; 191

&lt;211&gt; 977

&lt;212&gt; PRT

&lt;213&gt; Chlamydia

&lt;400&gt; 191

Met	Ala	Ser	Met	Thr	Gly	Gly	Gln	Gln	Met	Gly	Arg	Asp	Ser	Ser	Leu		
1				5					10					15			
Val	Pro	Ser	Ser	Asp	Pro	His	His	His	His	His	His	Gly	Leu	Ala	Arg		
			20					25					30				
Glu	Val	Pro	Ser	Arg	Ile	Phe	Leu	Met	Pro	Asn	Ser	Val	Pro	Asp	Pro		
		35					40					45					
Thr	Lys	Glu	Ser	Leu	Ser	Asn	Lys	Ile	Ser	Leu	Thr	Gly	Asp	Thr	His		
	50					55					60						
Asn	Leu	Thr	Asn	Cys	Tyr	Leu	Asp	Asn	Leu	Arg	Tyr	Ile	Leu	Ala	Ile		
				70						75					80		
Leu	Gln	Lys	Thr	Pro	Asn	Glu	Gly	Ala	Ala	Val	Thr	Ile	Thr	Asp	Tyr		
				85					90					95			
Leu	Ser	Phe	Phe	Asp	Thr	Gln	Lys	Glu	Gly	Ile	Tyr	Phe	Ala	Lys	Asn		
			100					105					110				
Leu	Thr	Pro	Glu	Ser	Gly	Gly	Ala	Ile	Gly	Tyr	Ala	Ser	Pro	Asn	Ser		
		115					120					125					
Pro	Thr	Val	Glu	Ile	Arg	Asp	Thr	Ile	Gly	Pro	Val	Ile	Phe	Glu	Asn		
		130				135					140						
Asn	Thr	Cys	Cys	Arg	Leu	Phe	Thr	Trp	Arg	Asn	Pro	Tyr	Ala	Ala	Asp		
145				150					155						160		
Lys	Ile	Arg	Glu	Gly	Gly	Ala	Ile	His	Ala	Gln	Asn	Leu	Tyr	Ile	Asn		
				165					170					175			
His	Asn	His	Asp	Val	Val	Gly	Phe	Met	Lys	Asn	Phe	Ser	Tyr	Val	Gln		
			180					185					190				
Gly	Gly	Ala	Ile	Ser	Thr	Ala	Asn	Thr	Phe	Val	Val	Ser	Glu	Asn	Gln		
		195					200					205					
Ser	Cys	Phe	Leu	Phe	Met	Asp	Asn	Ile	Cys	Ile	Gln	Thr	Asn	Thr	Ala		
		210				215					220						
Gly	Lys	Gly	Gly	Ala	Ile	Tyr	Ala	Gly	Thr	Ser	Asn	Ser	Phe	Glu	Ser		
225				230					235						240		
Asn	Asn	Cys	Asp	Leu	Phe	Phe	Ile	Asn	Asn	Ala	Cys	Cys	Ala	Gly	Gly		
				245				250					255				
Ala	Ile	Phe	Ser	Pro	Ile	Cys	Ser	Leu	Thr	Gly	Asn	Arg	Gly	Asn	Ile		

				260					265					270			
Val	Phe	Tyr	Asn	Asn	Arg	Cys	Phe	Lys	Asn	Val	Glu	Thr	Ala	Ser	Ser		
		275					280					285					
Glu	Ala	Ser	Asp	Gly	Gly	Ala	Ile	Lys	Val	Thr	Thr	Arg	Leu	Asp	Val		
	290					295				300							
Thr	Gly	Asn	Arg	Gly	Arg	Ile	Phe	Phe	Ser	Asp	Asn	Ile	Thr	Lys	Asn		
305					310					315					320		
Tyr	Gly	Gly	Ala	Ile	Tyr	Ala	Pro	Val	Val	Thr	Leu	Val	Asp	Asn	Gly		
			325						330					335			
Pro	Thr	Tyr	Phe	Ile	Asn	Asn	Ile	Ala	Asn	Asn	Lys	Gly	Gly	Ala	Ile		
			340					345					350				
Tyr	Ile	Asp	Gly	Thr	Ser	Asn	Ser	Lys	Ile	Ser	Ala	Asp	Arg	His	Ala		
		355					360					365					
Ile	Ile	Phe	Asn	Glu	Asn	Ile	Val	Thr	Asn	Val	Thr	Asn	Ala	Asn	Gly		
	370					375					380						
Thr	Ser	Thr	Ser	Ala	Asn	Pro	Pro	Arg	Arg	Asn	Ala	Ile	Thr	Val	Ala		
385					390					395					400		
Ser	Ser	Ser	Gly	Glu	Ile	Leu	Leu	Gly	Ala	Gly	Ser	Ser	Gln	Asn	Leu		
			405						410					415			
Ile	Phe	Tyr	Asp	Pro	Ile	Glu	Val	Ser	Asn	Ala	Gly	Val	Ser	Val	Ser		
			420					425					430				
Phe	Asn	Lys	Glu	Ala	Asp	Gln	Thr	Gly	Ser	Val	Val	Phe	Ser	Gly	Ala		
		435					440					445					
Thr	Val	Asn	Ser	Ala	Asp	Phe	His	Gln	Arg	Asn	Leu	Gln	Thr	Lys	Thr		
	450					455					460						
Pro	Ala	Pro	Leu	Thr	Leu	Ser	Asn	Gly	Phe	Leu	Cys	Ile	Glu	Asp	His		
465					470					475					480		
Ala	Gln	Leu	Thr	Val	Asn	Arg	Phe	Thr	Gln	Thr	Gly	Gly	Val	Val	Ser		
			485						490					495			
Leu	Gly	Asn	Gly	Ala	Val	Leu	Ser	Cys	Tyr	Lys	Asn	Gly	Thr	Gly	Asp		
			500					505					510				
Ser	Ala	Ser	Asn	Ala	Ser	Ile	Thr	Leu	Lys	His	Ile	Gly	Leu	Asn	Leu		
		515					520					525					
Ser	Ser	Ile	Leu	Lys	Ser	Gly	Ala	Glu	Ile	Pro	Leu	Leu	Trp	Val	Glu		
						535					540						
Pro	Thr	Asn	Asn	Ser	Asn	Asn	Tyr	Thr	Ala	Asp	Thr	Ala	Ala	Thr	Phe		
545					550					555					560		
Ser	Leu	Ser	Asp	Val	Lys	Leu	Ser	Leu	Ile	Asp	Asp	Tyr	Gly	Asn	Ser		
			565						570					575			
Pro	T																

Gly Ile Thr Gly Gly Gly Leu Gly Met Met Val Tyr Gln Asp Pro Arg  
 705 710 715 720  
 Glu Asn His Pro Gly Phe His Met Arg Ser Ser Gly Tyr Ser Ala Gly  
 725 730 735  
 Met Ile Ala Gly Gln Thr His Thr Phe Ser Leu Lys Phe Ser Gln Thr  
 740 745 750  
 Tyr Thr Lys Leu Asn Glu Arg Tyr Ala Lys Asn Asn Val Ser Ser Lys  
 755 760 765  
 Asn Tyr Ser Cys Gln Gly Glu Met Leu Phe Ser Leu Gln Glu Gly Phe  
 770 775 780  
 Leu Leu Thr Lys Leu Val Gly Leu Tyr Ser Tyr Gly Asp His Asn Cys  
 785 790 795 800  
 His His Phe Tyr Thr Gln Gly Glu Asn Leu Thr Ser Gln Gly Thr Phe  
 805 810 815  
 Arg Ser Gln Thr Met Gly Gly Ala Val Phe Phe Asp Leu Pro Met Lys  
 820 825 830  
 Pro Phe Gly Ser Thr His Ile Leu Thr Ala Pro Phe Leu Gly Ala Leu  
 835 840 845  
 Gly Ile Tyr Ser Ser Leu Ser His Phe Thr Glu Val Gly Ala Tyr Pro  
 850 855 860  
 Arg Ser Phe Ser Thr Lys Thr Pro Leu Ile Asn Val Leu Val Pro Ile  
 865 870 875 880  
 Gly Val Lys Gly Ser Phe Met Asn Ala Thr His Arg Pro Gln Ala Trp  
 885 890 895  
 Thr Val Glu Leu Ala Tyr Gln Pro Val Leu Tyr Arg Gln Glu Pro Gly  
 900 905 910  
 Ile Ala Thr Gln Leu Leu Ala Ser Lys Gly Ile Trp Phe Gly Ser Gly  
 915 920 925  
 Ser Pro Ser Ser Arg His Ala Met Ser Tyr Lys Ile Ser Gln Gln Thr  
 930 935 940  
 Gln Pro Leu Ser Trp Leu Thr Leu His Phe Gln Tyr His Gly Phe Tyr  
 945 950 955 960  
 Ser Ser Ser Thr Phe Cys Asn Tyr Leu Asn Gly Glu Ile Ala Leu Arg  
 965 970 975  
 Phe

<210> 192  
 <211> 848  
 <212> PRT  
 <213> Chlamydia

<400> 192

Met Ala Ser His His His His His His Gly Ala Ile Ser Cys Leu Arg  
 1 5 10 15  
 Gly Asp Val Val Ile Ser Gly Asn Lys Gly Arg Val Glu Phe Lys Asp  
 20 25 30  
 Asn Ile Ala Thr Arg Leu Tyr Val Glu Glu Thr Val Glu Lys Val Glu  
 35 40 45  
 Glu Val Glu Pro Ala Pro Glu Gln Lys Asp Asn Asn Glu Leu Ser Phe  
 50 55 60  
 Leu Gly Ser Val Glu Gln Ser Phe Ile Thr Ala Ala Asn Gln Ala Leu  
 65 70 75 80  
 Phe Ala Ser Glu Asp Gly Asp Leu Ser Pro Glu Ser Ser Ile Ser Ser  
 85 90 95

Glu	Glu	Leu	Ala	Lys	Arg	Arg	Glu	Cys	Ala	Gly	Gly	Ala	Ile	Phe	Ala		
			100					105					110				
Lys	Arg	Val	Arg	Ile	Val	Asp	Asn	Gln	Glu	Ala	Val	Val	Phe	Ser	Asn		
		115					120					125					
Asn	Phe	Ser	Asp	Ile	Tyr	Gly	Gly	Ala	Ile	Phe	Thr	Gly	Ser	Leu	Arg		
	130					135					140						
Glu	Glu	Asp	Lys	Leu	Asp	Gly	Gln	Ile	Pro	Glu	Val	Leu	Ile	Ser	Gly		
145				150						155					160		
Asn	Ala	Gly	Asp	Val	Val	Phe	Ser	Gly	Asn	Ser	Ser	Lys	Arg	Asp	Glu		
			165						170					175			
His	Leu	Pro	His	Thr	Gly	Gly	Gly	Ala	Ile	Cys	Thr	Gln	Asn	Leu	Thr		
		180						185					190				
Ile	Ser	Gln	Asn	Thr	Gly	Asn	Val	Leu	Phe	Tyr	Asn	Asn	Val	Ala	Cys		
		195					200					205					
Ser	Gly	Gly	Ala	Val	Arg	Ile	Glu	Asp	His	Gly	Asn	Val	Leu	Leu	Glu		
	210					215					220						
Ala	Phe	Gly	Gly	Asp	Ile	Val	Phe	Lys	Gly	Asn	Ser	Ser	Phe	Arg	Ala		
225				230					235					240			
Gln	Gly	Ser	Asp	Ala	Ile	Tyr	Phe	Ala	Gly	Lys	Glu	Ser	His	Ile	Thr		
				245					250					255			
Ala	Leu	Asn	Ala	Thr	Glu	Gly	His	Ala	Ile	Val	Phe	His	Asp	Ala	Leu		
			260					265					270				
Val	Phe	Glu	Asn	Leu	Lys	Glu	Arg	Lys	Ser	Ala	Glu	Val	Leu	Leu	Ile		
		275					280					285					
Asn	Ser	Arg	Glu	Asn	Pro	Gly	Tyr	Thr	Gly	Ser	Ile	Arg	Phe	Leu	Glu		
	290					295					300						
Ala	Glu	Ser	Lys	Val	Pro	Gln	Cys	Ile	His	Val	Gln	Gln	Gly	Ser	Leu		
305				310						315					320		
Glu	Leu	Leu	Asn	Gly	Ala	Thr	Leu	Cys	Ser	Tyr	Gly	Phe	Lys	Gln	Asp		
			325						330					335			
Ala	Gly	Ala	Lys	Leu	Val	Leu	Ala	Ala	Gly	Ser	Lys	Leu	Lys	Ile	Leu		
			340					345					350				
Asp	Ser	Gly	Thr	Pro	Val	Gln	Gly	His	Ala	Ile	Ser	Lys	Pro	Glu	Ala		
		355					360					365					
Glu	Ile	Glu	Ser	Ser	Ser	Glu	Pro	Glu	Gly	Ala	His	Ser	Leu	Trp	Ile		
	370					375					380						
Ala	Lys	Asn	Ala	Gln	Thr	Thr	Val	Pro	Met	Val	Asp	Ile	His	Thr	Ile		
385				390						395				400			
Ser	Val	Asp	Leu	Ala	Ser	Phe	Ser	Ser	Ser	Gln	Gln	Glu	Gly	Thr	Val		
			405					410						415			
Glu	Ala	Pro	Gln	Val	Ile	Val	Pro	Gly	Gly	Ser	Tyr	Val	Arg	Ser	Gly		
		420						425					430				
Glu	Leu	Asn	Leu	Glu	Leu	Val	Asn	Thr	Thr	Gly	Thr	Gly	Tyr	Glu	Asn		
		435					440					445					
His	Ala	Leu	Leu	Lys	Asn	Glu	Ala	Lys	Val	Pro	Leu	Met	Ser	Phe	Val		
	450				455						460						
Ala	Ser	Ser	Asp	Glu	Ala	Ser	Ala	Glu	Ile	Ser	Asn	Leu	Ser	Val	Ser		
465				470						475				480			
Asp	Leu	Gln	Ile	His	Val	Ala	Thr	Pro	Glu	Ile	Glu	Glu	Asp	Thr	Tyr		
			485					490						495			
Gly	His	Met	Gly	Asp	Trp	Ser	Glu	Ala	Lys	Ile	Gln	Asp	Gly	Thr	Leu		
		500						505					510				
Val	Ile	Asn	Trp	Asn	Pro	Thr	Gly	Tyr	Arg	Leu	Asp	Pro	Gln	Lys	Ala		
		515					520					525					
Gly	Ala	Leu	Val	Phe	Asn	Ala	Leu	Trp	Glu	Glu	Gly	Ala	Val	Leu	Ser		

530		535		540
Ala Leu Lys Asn Ala Arg Phe Ala His Asn Leu Thr Ala Gln Arg Met				
545		550		555
Glu Phe Asp Tyr Ser Thr Asn Val Trp Gly Phe Ala Phe Gly Gly Phe				560
	565		570	575
Arg Thr Leu Ser Ala Glu Asn Leu Val Ala Ile Asp Gly Tyr Lys Gly				
	580		585	590
Ala Tyr Gly Gly Ala Ser Ala Gly Val Asp Ile Gln Leu Met Glu Asp				
	595		600	605
Phe Val Leu Gly Val Ser Gly Ala Ala Phe Leu Gly Lys Met Asp Ser				
	610		615	620
Gln Lys Phe Asp Ala Glu Val Ser Arg Lys Gly Val Val Gly Ser Val				
625		630		635
Tyr Thr Gly Phe Leu Ala Gly Ser Trp Phe Phe Lys Gly Gln Tyr Ser				640
	645		650	655
Leu Gly Glu Thr Gln Asn Asp Met Lys Thr Arg Tyr Gly Val Leu Gly				
	660		665	670
Glu Ser Ser Ala Ser Trp Thr Ser Arg Gly Val Leu Ala Asp Ala Leu				
	675		680	685
Val Glu Tyr Arg Ser Leu Val Gly Pro Val Arg Pro Thr Phe Tyr Ala				
	690		695	700
Leu His Phe Asn Pro Tyr Val Glu Val Ser Tyr Ala Ser Met Lys Phe				
705		710		715
Pro Gly Phe Thr Glu Gln Gly Arg Glu Ala Arg Ser Phe Glu Asp Ala				720
	725		730	735
Ser Leu Thr Asn Ile Thr Ile Pro Leu Gly Met Lys Phe Glu Leu Ala				
	740		745	750
Phe Ile Lys Gly Gln Phe Ser Glu Val Asn Ser Leu Gly Ile Ser Tyr				
	755		760	765
Ala Trp Glu Ala Tyr Arg Lys Val Glu Gly Gly Ala Val Gln Leu Leu				
	770		775	780
Glu Ala Gly Phe Asp Trp Glu Gly Ala Pro Met Asp Leu Pro Arg Gln				
785		790		795
Glu Leu Arg Val Ala Leu Glu Asn Asn Thr Glu Trp Ser Ser Tyr Phe				800
	805		810	815
Ser Thr Val Leu Gly Leu Thr Ala Phe Cys Gly Gly Phe Thr Ser Thr				
	820		825	830
Asp Ser Lys Leu Gly Tyr Glu Ala Asn Thr Gly Leu Arg Leu Ile Phe				
	835		840	845

&lt;210&gt; 193

&lt;211&gt; 778

&lt;212&gt; PRT

&lt;213&gt; Chlamydia

&lt;400&gt; 193

Met His His His His His His Gly Leu Ala Ser Cys Val Asp Leu His				
1	5	10	15	
Ala Gly Gly Gln Ser Val Asn Glu Leu Val Tyr Val Gly Pro Gln Ala				
	20	25	30	
Val Leu Leu Leu Asp Gln Ile Arg Asp Leu Phe Val Gly Ser Lys Asp				
	35	40	45	
Ser Gln Ala Glu Gly Gln Tyr Arg Leu Ile Val Gly Asp Pro Ser Ser				
	50	55	60	
Phe Gln Glu Lys Asp Ala Asp Thr Leu Pro Gly Lys Val Glu Gln Ser				

65	Thr	Leu	Phe	Ser	Val	Thr	Asn	Pro	Val	Val	Phe	Gln	Gly	Val	Asp	Gln	80
				85						90					95		
Gln	Asp	Gln	Val	Ser	Ser	Gln	Gly	Leu	Ile	Cys	Ser	Phe	Thr	Ser	Ser		
			100					105						110			
Asn	Leu	Asp	Ser	Pro	Arg	Asp	Gly	Glu	Ser	Phe	Leu	Gly	Ile	Ala	Phe		
		115					120						125				
Val	Gly	Asp	Ser	Ser	Lys	Ala	Gly	Ile	Thr	Leu	Thr	Asp	Val	Lys	Ala		
	130					135						140					
Ser	Leu	Ser	Gly	Ala	Ala	Leu	Tyr	Ser	Thr	Glu	Asp	Leu	Ile	Phe	Glu		
145					150					155					160		
Lys	Ile	Lys	Gly	Gly	Leu	Glu	Phe	Ala	Ser	Cys	Ser	Ser	Leu	Glu	Gln		
				165					170						175		
Gly	Gly	Ala	Cys	Ala	Ala	Gln	Ser	Ile	Leu	Ile	His	Asp	Cys	Gln	Gly		
			180					185					190				
Leu	Gln	Val	Lys	His	Cys	Thr	Thr	Ala	Val	Asn	Ala	Glu	Gly	Ser	Ser		
		195					200						205				
Ala	Asn	Asp	His	Leu	Gly	Phe	Gly	Gly	Gly	Ala	Phe	Phe	Val	Thr	Gly		
	210				215						220						
Ser	Leu	Ser	Gly	Glu	Lys	Ser	Leu	Tyr	Met	Pro	Ala	Gly	Asp	Met	Val		
225					230					235					240		
Val	Ala	Asn	Cys	Asp	Gly	Ala	Ile	Ser	Phe	Glu	Gly	Asn	Ser	Ala	Asn		
			245						250					255			
Phe	Ala	Asn	Gly	Gly	Ala	Ile	Ala	Ala	Ser	Gly	Lys	Val	Leu	Phe	Val		
			260					265						270			
Ala	Asn	Asp	Lys	Lys	Thr	Ser	Phe	Ile	Glu	Asn	Arg	Ala	Leu	Ser	Gly		
		275					280						285				
Gly	Ala	Ile	Ala	Ala	Ser	Ser	Asp	Ile	Ala	Phe	Gln	Asn	Cys	Ala	Glu		
	290				295						300						
Leu	Val	Phe	Lys	Gly	Asn	Cys	Ala	Ile	Gly	Thr	Glu	Asp	Lys	Gly	Ser		
305					310					315					320		
Leu	Gly	Gly	Gly	Ala	Ile	Ser	Ser	Leu	Gly	Thr	Val	Leu	Leu	Gln	Gly		
			325						330					335			
Asn	His	Gly	Ile	Thr	Cys	Asp	Lys	Asn	Glu	Ser	Ala	Ser	Gln	Gly	Gly		
		340						345					350				
Ala	Ile	Phe	Gly	Lys	Asn	Cys	Gln	Ile	Ser	Asp	Asn	Glu	Gly	Pro	Val		
		355					360						365				
Val	Phe	Arg	Asp	Ser	Thr	Ala	Cys	Leu	Gly	Gly	Gly	Ala	Ile	Ala	Ala		
	370					375						380					
Gln	Glu	Ile	Val	Ser	Ile	Gln	Asn	Asn	Gln	Ala	Gly	Ile	Ser	Phe	Glu		
385					390					395							

Thr Gly Asn Ala Arg Ala Pro Gln Ala Leu Pro Thr Gln Glu Glu Phe  
 515 520 525  
 Pro Leu Phe Ser Lys Lys Glu Gly Arg Pro Leu Ser Ser Gly Tyr Ser  
 530 535 540  
 Gly Gly Gly Ala Ile Leu Gly Arg Glu Val Ala Ile Leu His Asn Ala  
 545 550 555 560  
 Ala Val Val Phe Glu Gln Asn Arg Leu Gln Cys Ser Glu Glu Glu Ala  
 565 570 575  
 Thr Leu Leu Gly Cys Cys Gly Gly Gly Ala Val His Gly Met Asp Ser  
 580 585 590  
 Thr Ser Ile Val Gly Asn Ser Ser Val Arg Phe Gly Asn Asn Tyr Ala  
 595 600 605  
 Met Gly Gln Gly Val Ser Gly Gly Ala Leu Leu Ser Lys Thr Val Gln  
 610 615 620  
 Leu Ala Gly Asn Gly Ser Val Asp Phe Ser Arg Asn Ile Ala Ser Leu  
 625 630 635 640  
 Gly Gly Gly Ala Leu Gln Ala Ser Glu Gly Asn Cys Glu Leu Val Asp  
 645 650 655  
 Asn Gly Tyr Val Leu Phe Arg Asp Asn Arg Gly Arg Val Tyr Gly Gly  
 660 665 670  
 Ala Ile Ser Cys Leu Arg Gly Asp Val Val Ile Ser Gly Asn Lys Gly  
 675 680 685  
 Arg Val Glu Phe Lys Asp Asn Ile Ala Thr Arg Leu Tyr Val Glu Glu  
 690 695 700  
 Thr Val Glu Lys Val Glu Glu Val Glu Pro Ala Pro Glu Gln Lys Asp  
 705 710 715 720  
 Asn Asn Glu Leu Ser Phe Leu Gly Ser Val Glu Gln Ser Phe Ile Thr  
 725 730 735  
 Ala Ala Asn Gln Ala Leu Phe Ala Ser Glu Asp Gly Asp Leu Ser Pro  
 740 745 750  
 Glu Ser Ser Ile Ser Ser Glu Glu Leu Ala Lys Arg Arg Glu Cys Ala  
 755 760 765  
 Gly Gly Ala Asp Ser Ser Arg Ser Gly Cys  
 770 775

&lt;210&gt; 194

&lt;211&gt; 948

&lt;212&gt; PRT

&lt;213&gt; Chlamydia

&lt;400&gt; 194

Met Ala Ser Met His His His His His Val Lys Ile Glu Asn Phe  
 1 5 10 15  
 Ser Gly Gln Gly Ile Phe Ser Gly Asn Lys Ala Ile Asp Asn Thr Thr  
 20 25 30  
 Glu Gly Ser Ser Ser Lys Ser Asn Val Leu Gly Gly Ala Val Tyr Ala  
 35 40 45  
 Lys Thr Leu Phe Asn Leu Asp Ser Gly Ser Ser Arg Thr Val Thr  
 50 55 60  
 Phe Ser Gly Asn Thr Val Ser Ser Gln Ser Thr Thr Gly Gln Val Ala  
 65 70 75 80  
 Gly Gly Ala Ile Tyr Ser Pro Thr Val Thr Ile Ala Thr Pro Val Val  
 85 90 95  
 Phe Ser Lys Asn Ser Ala Thr Asn Asn Ala Asn Asn Ala Thr Asp Thr  
 100 105 110

Gln	Arg	Lys	Asp	Thr	Phe	Gly	Gly	Ala	Ile	Gly	Ala	Thr	Ser	Ala	Val
		115						120				125			
Ser	Leu	Ser	Gly	Gly	Ala	His	Phe	Leu	Glu	Asn	Val	Ala	Asp	Leu	Gly
	130					135					140				
Ser	Ala	Ile	Gly	Leu	Val	Pro	Asp	Thr	Gln	Asn	Thr	Glu	Thr	Val	Lys
145					150					155					160
Leu	Glu	Ser	Gly	Ser	Tyr	Tyr	Phe	Glu	Lys	Asn	Lys	Ala	Leu	Lys	Arg
				165					170					175	
Ala	Thr	Ile	Tyr	Ala	Pro	Val	Val	Ser	Ile	Lys	Ala	Tyr	Thr	Ala	Thr
			180					185					190		
Phe	Asn	Gln	Asn	Arg	Ser	Leu	Glu	Glu	Gly	Ser	Ala	Ile	Tyr	Phe	Thr
	195					200						205			
Lys	Glu	Ala	Ser	Ile	Glu	Ser	Leu	Gly	Ser	Val	Leu	Phe	Thr	Gly	Asn
	210					215					220				
Leu	Val	Thr	Pro	Thr	Leu	Ser	Thr	Thr	Thr	Glu	Gly	Thr	Pro	Ala	Thr
225					230					235					240
Thr	Ser	Gly	Asp	Val	Thr	Lys	Tyr	Gly	Ala	Ala	Ile	Phe	Gly	Gln	Ile
				245					250					255	
Ala	Ser	Ser	Asn	Gly	Ser	Gln	Thr	Asp	Asn	Leu	Pro	Leu	Lys	Leu	Ile
			260					265					270		
Ala	Ser	Gly	Gly	Asn	Ile	Cys	Phe	Arg	Asn	Asn	Glu	Tyr	Arg	Pro	Thr
		275					280					285			
Ser	Ser	Asp	Thr	Gly	Thr	Ser	Thr	Phe	Cys	Ser	Ile	Ala	Gly	Asp	Val
	290					295					300				
Lys	Leu	Thr	Met	Gln	Ala	Ala	Lys	Gly	Lys	Thr	Ile	Ser	Phe	Phe	Asp
305				310						315					320
Ala	Ile	Arg	Thr	Ser	Thr	Lys	Lys	Thr	Gly	Thr	Gln	Ala	Thr	Ala	Tyr
				325					330					335	
Asp	Thr	Leu	Asp	Ile	Asn	Lys	Ser	Glu	Asp	Ser	Glu	Thr	Val	Asn	Ser
			340					345					350		
Ala	Phe	Thr	Gly	Thr	Ile	Leu	Phe	Ser	Ser	Glu	Leu	His	Glu	Asn	Lys
	355						360					365			
Ser	Tyr	Ile	Pro	Gln	Asn	Val	Val	Leu	His	Ser	Gly	Ser	Leu	Val	Leu
	370					375					380				
Lys	Pro	Asn	Thr	Glu	Leu	His	Val	Ile	Ser	Phe	Glu	Gln	Lys	Glu	Gly
385				390						395					400
Ser	Ser	Leu	Val	Met	Thr	Pro	Gly	Ser	Val	Leu	Ser	Asn	Gln	Thr	Val
				405					410					415	
Ala	Asp	Gly	Ala	Leu	Val	Ile	Asn	Asn	Met	Thr	Ile	Asp	Leu	Ser	Ser
			420					425					430		
Val	Glu	Lys	Asn	Gly	Ile	Ala	Glu	Gly	Asn	Ile	Phe	Thr	Pro	Pro	Glu
		435					440					445			
Leu	Arg	Ile	Ile	Asp	Thr	Thr	Thr	Ser	Gly	Ser	Gly	Gly	Thr	Pro	Ser
	450					455					460				
Thr	Asp	Ser	Glu												

545		550		555		560									
Leu	Leu	Val	Leu	Pro	Thr	Asp	Ser	Ser	Lys	Met	Gln	Ala	Gln	Lys	Ile
			565						570					575	
Val	Leu	Thr	Gly	Asp	Ile	Ala	Pro	Gln	Lys	Gly	Tyr	Thr	Gly	Thr	Leu
			580						585					590	
Thr	Leu	Asp	Pro	Asp	Gln	Leu	Gln	Asn	Gly	Thr	Ile	Ser	Ala	Leu	Trp
		595					600					605			
Lys	Phe	Asp	Ser	Tyr	Arg	Gln	Trp	Ala	Tyr	Val	Pro	Arg	Asp	Asn	His
	610					615					620				
Phe	Tyr	Ala	Asn	Ser	Ile	Leu	Gly	Ser	Gln	Met	Ser	Met	Val	Thr	Val
625					630					635					640
Lys	Gln	Gly	Leu	Leu	Asn	Asp	Lys	Met	Asn	Leu	Ala	Arg	Phe	Asp	Glu
			645						650					655	
Val	Ser	Tyr	Asn	Asn	Leu	Trp	Ile	Ser	Gly	Leu	Gly	Thr	Met	Leu	Ser
			660					665						670	
Gln	Val	Gly	Thr	Pro	Thr	Ser	Glu	Glu	Phe	Thr	Tyr	Tyr	Ser	Arg	Gly
		675					680					685			
Ala	Ser	Val	Ala	Leu	Asp	Ala	Lys	Pro	Ala	His	Asp	Val	Ile	Val	Gly
	690					695					700				
Ala	Ala	Phe	Ser	Lys	Met	Ile	Gly	Lys	Thr	Lys	Ser	Leu	Lys	Arg	Glu
705					710					715					720
Asn	Asn	Tyr	Thr	His	Lys	Gly	Ser	Glu	Tyr	Ser	Tyr	Gln	Ala	Ser	Val
				725					730					735	
Tyr	Gly	Gly	Lys	Pro	Phe	His	Phe	Val	Ile	Asn	Lys	Lys	Thr	Glu	Lys
			740					745						750	
Ser	Leu	Pro	Leu	Leu	Leu	Gln	Gly	Val	Ile	Ser	Tyr	Gly	Tyr	Ile	Lys
		755					760					765			
His	Asp	Thr	Val	Thr	His	Tyr	Pro	Thr	Ile	Arg	Glu	Arg	Asn	Gln	Gly
	770					775					780				
Glu	Trp	Glu	Asp	Leu	Gly	Trp	Leu	Thr	Ala	Leu	Arg	Val	Ser	Ser	Val
785					790					795					800
Leu	Arg	Thr	Pro	Ala	Gln	Gly	Asp	Thr	Lys	Arg	Ile	Thr	Val	Tyr	Gly
			805						810					815	
Glu	Leu	Glu	Tyr	Ser	Ser	Ile	Arg	Gln	Lys	Gln	Phe	Thr	Glu	Thr	Glu
			820					825					830		
Tyr	Asp	Pro	Arg	Tyr	Phe	Asp	Asn	Cys	Thr	Tyr	Arg	Asn	Leu	Ala	Ile
		835					840					845			
Pro	Met	Gly	Leu	Ala	Phe	Glu	Gly	Glu	Leu	Ser	Gly	Asn	Asp	Ile	Leu
		850				855					860				
Met	Tyr	Asn	Arg	Phe	Ser	Val	Ala	Tyr	Met	Pro	Ser	Ile	Tyr	Arg	Asn
865					870					875					880
Ser	Pro	Thr	Cys	Lys	Tyr	Gln	Val	Leu	Ser	Ser	Gly	Glu	Gly	Gly	Glu
			885						890					895	
Ile	Ile	Cys	Gly	Val	Pro	Thr	Arg	Asn	Ser	Ala	Arg	Gly	Glu	Tyr	Ser
			900					905					910		
Thr	Gln	Leu	Tyr	Pro	Gly	Pro	Leu	Trp	Thr	Leu	Tyr	Gly	Ser	Tyr	Thr
		915					920					925			
Ile	Glu	Ala	Asp	Ala	His	Thr	Leu	Ala	His	Met	Met	Asn	Cys	Gly	Ala
	930					935					940				
Arg	Met	Thr	Phe												
945															

&lt;210&gt; 195

&lt;211&gt; 821

&lt;212&gt; PRT

<400> 195

Met	His	His	His	His	His	His	Glu	Ala	Ser	Ser	Ile	Gln	Asp	Gln	Ile
1				5					10					15	
Lys	Asn	Thr	Asp	Cys	Asn	Val	Ser	Lys	Val	Gly	Tyr	Ser	Thr	Ser	Gln
			20					25					30		
Ala	Phe	Thr	Asp	Met	Met	Leu	Ala	Asp	Asn	Thr	Glu	Tyr	Arg	Ala	Ala
		35					40					45			
Asp	Ser	Val	Ser	Phe	Tyr	Asp	Phe	Ser	Thr	Ser	Ser	Gly	Leu	Pro	Arg
	50					55					60				
Lys	His	Leu	Ser	Ser	Ser	Ser	Glu	Ala	Ser	Pro	Thr	Thr	Glu	Gly	Val
65					70					75					80
Ser	Ser	Ser	Ser	Ser	Gly	Glu	Asn	Thr	Glu	Asn	Ser	Gln	Asp	Ser	Ala
				85					90					95	
Pro	Ser	Ser	Gly	Glu	Thr	Asp	Lys	Lys	Thr	Glu	Glu	Glu	Leu	Asp	Asn
			100					105					110		
Gly	Gly	Ile	Ile	Tyr	Ala	Arg	Glu	Lys	Leu	Thr	Ile	Ser	Glu	Ser	Gln
		115					120					125			
Asp	Ser	Leu	Ser	Asn	Pro	Ser	Ile	Glu	Leu	His	Asp	Asn	Ser	Phe	Phe
	130					135					140				
Phe	Gly	Glu	Gly	Glu	Val	Ile	Phe	Asp	His	Arg	Val	Ala	Leu	Lys	Asn
145					150					155					160
Gly	Gly	Ala	Ile	Tyr	Gly	Glu	Lys	Glu	Val	Val	Phe	Glu	Asn	Ile	Lys
			165					170						175	
Ser	Leu	Leu	Val	Glu	Val	Asn	Ile	Ser	Val	Glu	Lys	Gly	Gly	Ser	Val
			180					185					190		
Tyr	Ala	Lys	Glu	Arg	Val	Ser	Leu	Glu	Asn	Val	Thr	Glu	Ala	Thr	Phe
		195					200					205			
Ser	Ser	Asn	Gly	Gly	Glu	Gln	Gly	Gly	Gly	Gly	Ile	Tyr	Ser	Glu	Gln
	210					215					220				
Asp	Met	Leu	Ile	Ser	Asp	Cys	Asn	Asn	Val	His	Phe	Gln	Gly	Asn	Ala
225					230					235					240
Ala	Gly	Ala	Thr	Ala	Val	Lys	Gln	Cys	Leu	Asp	Glu	Glu	Met	Ile	Val
				245					250					255	
Leu	Leu	Thr	Glu	Cys	Val	Asp	Ser	Leu	Ser	Glu	Asp	Thr	Leu	Asp	Ser
			260					265					270		
Thr	Pro	Glu	Thr	Glu	Gln	Thr	Lys	Ser	Asn	Gly	Asn	Gln	Asp	Gly	Ser
		275					280					285			
Ser	Glu	Thr	Lys	Asp	Thr	Gln	Val	Ser	Glu	Ser	Pro	Glu	Ser	Thr	Pro
	290					295					300				
Ser	Pro	Asp	Asp	Val	Leu	Gly	Lys	Gly	Gly	Gly	Ile	Tyr	Thr	Glu	Lys
305					310					315					320
Ser	Leu	Thr	Ile	Thr	Gly	Ile	Thr	Gly	Thr	Ile	Asp	Phe	Val	Ser	Asn
				325					330					335	
Ile	Ala	Thr	Asp	Ser	Gly	Ala	Gly	Val	Phe	Thr	Lys	Glu	Asn	Leu	Ser
			340					345					350		
Cys	Thr	Asn	Thr	Asn	Ser	Leu	Gln								

Leu Ser Leu Ser Asn Leu Lys Thr Val Thr Leu Thr Lys Asn Ser Ala  
 420 425 430  
 Lys Glu Ser Gly Gly Ala Ile Phe Thr Asp Leu Ala Ser Ile Pro Thr  
 435 440 445  
 Thr Asp Thr Pro Glu Ser Ser Thr Pro Ser Ser Ser Pro Ala Ser  
 450 455 460  
 Thr Pro Glu Val Val Ala Ser Ala Lys Ile Asn Arg Phe Phe Ala Ser  
 465 470 475 480  
 Thr Ala Glu Pro Ala Ala Pro Ser Leu Thr Glu Ala Glu Ser Asp Gln  
 485 490 495  
 Thr Asp Gln Thr Glu Thr Ser Asp Thr Asn Ser Asp Ile Asp Val Ser  
 500 505 510  
 Ile Glu Asn Ile Leu Asn Val Ala Ile Asn Gln Asn Thr Ser Ala Lys  
 515 520 525  
 Lys Gly Gly Ala Ile Tyr Gly Lys Lys Ala Lys Leu Ser Arg Ile Asn  
 530 535 540  
 Asn Leu Glu Leu Ser Gly Asn Ser Ser Gln Asp Val Gly Gly Gly Leu  
 545 550 555 560  
 Cys Leu Thr Glu Ser Val Glu Phe Asp Ala Ile Gly Ser Leu Leu Ser  
 565 570 575  
 His Tyr Asn Ser Ala Ala Lys Glu Gly Gly Val Ile His Ser Lys Thr  
 580 585 590  
 Val Thr Leu Ser Asn Leu Lys Ser Thr Phe Thr Phe Ala Asp Asn Thr  
 595 600 605  
 Val Lys Ala Ile Val Glu Ser Thr Pro Glu Ala Pro Glu Glu Ile Pro  
 610 615 620  
 Pro Val Glu Gly Glu Glu Ser Thr Ala Thr Glu Asn Pro Asn Ser Asn  
 625 630 635 640  
 Thr Glu Gly Ser Ser Ala Asn Thr Asn Leu Glu Gly Ser Gln Gly Asp  
 645 650 655  
 Thr Ala Asp Thr Gly Thr Gly Val Val Asn Asn Glu Ser Gln Asp Thr  
 660 665 670  
 Ser Asp Thr Gly Asn Ala Glu Ser Gly Glu Gln Leu Gln Asp Ser Thr  
 675 680 685  
 Gln Ser Asn Glu Glu Asn Thr Leu Pro Asn Ser Ser Ile Asp Gln Ser  
 690 695 700  
 Asn Glu Asn Thr Asp Glu Ser Ser Asp Ser His Thr Glu Glu Ile Thr  
 705 710 715 720  
 Asp Glu Ser Val Ser Ser Ser Ser Lys Ser Gly Ser Ser Thr Pro Gln  
 725 730 735  
 Asp Gly Gly Ala Ala Ser Ser Gly Ala Pro Ser Gly Asp Gln Ser Ile  
 740 745 750  
 Ser Ala Asn Ala Cys Leu Ala Lys Ser Tyr Ala Ala Ser Thr Asp Ser  
 755 760 765  
 Ser Pro Val Ser Asn Ser Ser Gly Ser Asp Val Thr Ala Ser Ser Asp  
 770 775 780  
 Asn Pro Asp Ser Ser Ser Ser Gly Asp Ser Ala Gly Asp Ser Glu Gly  
 785 790 795 800  
 Pro Thr Glu Pro Glu Ala Gly Ser Thr Thr Glu Thr Pro Thr Leu Ile  
 805 810 815  
 Gly Gly Gly Ala Ile  
 820

&lt;210&gt; 196

&lt;211&gt; 525

&lt;212&gt; PRT

&lt;213&gt; Chlamydia

&lt;400&gt; 196

Met	His	His	His	His	His	His	Thr	Ala	Ala	Ser	Asp	Asn	Phe	Gln	Leu
1				5					10					15	
Ser	Gln	Gly	Gly	Gln	Gly	Phe	Ala	Ile	Pro	Ile	Gly	Gln	Ala	Met	Ala
		20						25					30		
Ile	Ala	Gly	Gln	Ile	Lys	Leu	Pro	Thr	Val	His	Ile	Gly	Pro	Thr	Ala
	35						40					45			
Phe	Leu	Gly	Leu	Gly	Val	Val	Asp	Asn	Asn	Gly	Asn	Gly	Ala	Arg	Val
	50				55					60					
Gln	Arg	Val	Val	Gly	Ser	Ala	Pro	Ala	Ala	Ser	Leu	Gly	Ile	Ser	Thr
65					70					75					80
Gly	Asp	Val	Ile	Thr	Ala	Val	Asp	Gly	Ala	Pro	Ile	Asn	Ser	Ala	Thr
			85					90						95	
Ala	Met	Ala	Asp	Ala	Leu	Asn	Gly	His	His	Pro	Gly	Asp	Val	Ile	Ser
			100					105					110		
Val	Thr	Trp	Gln	Thr	Lys	Ser	Gly	Gly	Thr	Arg	Thr	Gly	Asn	Val	Thr
		115					120					125			
Leu	Ala	Glu	Gly	Pro	Pro	Ala	Glu	Phe	Pro	Leu	Val	Pro	Arg	Gly	Ser
	130					135					140				
Pro	Leu	Pro	Val	Gly	Asn	Pro	Ala	Glu	Pro	Ser	Leu	Leu	Ile	Asp	Gly
145					150					155					160
Thr	Met	Trp	Glu	Gly	Ala	Ser	Gly	Asp	Pro	Cys	Asp	Pro	Cys	Ala	Thr
			165					170						175	
Trp	Cys	Asp	Ala	Ile	Ser	Ile	Arg	Ala	Gly	Tyr	Tyr	Gly	Asp	Tyr	Val
			180					185					190		
Phe	Asp	Arg	Val	Leu	Lys	Val	Asp	Val	Asn	Lys	Thr	Phe	Ser	Gly	Met
	195						200					205			
Ala	Ala	Thr	Pro	Thr	Gln	Ala	Ile	Gly	Asn	Ala	Ser	Asn	Thr	Asn	Gln
	210					215					220				
Pro	Glu	Ala	Asn	Gly	Arg	Pro	Asn	Ile	Ala	Tyr	Gly	Arg	His	Met	Gln
225					230					235					240
Asp	Ala	Glu	Trp	Phe	Ser	Asn	Ala	Ala	Phe	Leu	Ala	Leu	Asn	Ile	Trp
			245						250					255	
Asp	Arg	Phe	Asp	Ile	Phe	Cys	Thr	Leu	Gly	Ala	Ser	Asn	Gly	Tyr	Phe
		260						265					270		
Lys	Ala	Ser	Ser	Ala	Ala	Phe	Asn	Leu	Val	Gly	Leu	Ile	Gly	Phe	Ser
	275						280					285			
Ala	Ala	Ser	Ser	Ile	Ser	Thr	Asp	Leu	Pro	Met	Gln	Leu	Pro	Asn	Val
	290					295					300				
Gly	Ile	Thr	Gln	Gly	Val	Val	Glu	Phe	Tyr	Thr	Asp	Thr	Ser	Phe	Ser
305					310					315					320
Trp	Ser	Val	Gly	Ala	Arg	Gly	Ala	Leu	Trp	Glu	Cys	Gly	Cys	Ala	Thr
			325						330					335	
Leu	Gly	Ala	Glu	Phe	Gln	Tyr	Ala	Gln	Ser	Asn	Pro	Lys	Ile	Glu	Met
		340						345					350		
Leu	Asn	Val	Thr	Ser	Ser	Pro	Ala	Gln	Phe	Val	Ile	His	Lys	Pro	Arg
	355						360					365			
Gly	Tyr	Lys	Gly	Ala	Ser	Ser	Asn	Phe	Pro	Leu	Pro	Ile	Thr	Ala	Gly
	370					375						380			
Thr	Thr	Glu	Ala	Thr	Asp	Thr	Lys	Ser	Ala	Thr	Ile	Lys	Tyr	His	Glu
385				390						395					400
Trp	Gln	Val	Gly	Leu	Ala	Leu	Ser	Tyr	Arg	Leu	Asn	Met	Leu	Val	Pro

				405					410				415		
Tyr	Ile	Gly	Val	Asn	Trp	Ser	Arg	Ala	Thr	Phe	Asp	Ala	Asp	Thr	Ile
				420				425					430		
Arg	Ile	Ala	Gln	Pro	Lys	Leu	Lys	Ser	Glu	Ile	Leu	Asn	Ile	Thr	Thr
		435					440					445			
Trp	Asn	Pro	Ser	Leu	Ile	Gly	Ser	Thr	Thr	Ala	Leu	Pro	Asn	Asn	Ser
	450					455					460				
Gly	Lys	Asp	Val	Leu	Ser	Asp	Val	Leu	Gln	Ile	Ala	Ser	Ile	Gln	Ile
465					470				475					480	
Asn	Lys	Met	Lys	Ser	Arg	Lys	Ala	Cys	Gly	Val	Ala	Val	Gly	Ala	Thr
			485				490				495				
Leu	Ile	Asp	Ala	Asp	Lys	Trp	Ser	Ile	Thr	Gly	Glu	Ala	Arg	Leu	Ile
		500					505					510			
Asn	Glu	Arg	Ala	Ala	His	Met	Asn	Ala	Gln	Phe	Arg	Phe			
		515					520				525				

&lt;210&gt; 197

&lt;211&gt; 43

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 197

gataggcgcg cgcgaatcat gaaatttatg tcagctactg ctg

43

&lt;210&gt; 198

&lt;211&gt; 34

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 198

cagaacgcgt ttagaatgtc atacgagcac cgca

34

&lt;210&gt; 199

&lt;211&gt; 6

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 199

gcaatc

6

&lt;210&gt; 200

&lt;211&gt; 34

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 200

tgcaatcatg agttcgaga aagatataaa aagc

34

&lt;210&gt; 201

&lt;211&gt; 38

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 201

cagagctagc ttaaaagatc aatcgcaatc cagtattc

38

<210> 202  
 <211> 5  
 <212> DNA  
 <213> Chlamydia

<400> 202  
 caatc

5

<210> 203  
 <211> 31  
 <212> DNA  
 <213> Chlamydia

<400> 203  
 tgcaatcatg aaaaaagcgt ttttcttttt c

31

<210> 204  
 <211> 31  
 <212> DNA  
 <213> Chlamydia

<400> 204  
 cagaacgcgt ctagaatcgc agagcaattt c

31

<210> 205  
 <211> 30  
 <212> DNA  
 <213> Chlamydia

<400> 205  
 gtgcaatcat gattcctcaa ggaatttacg

30

<210> 206  
 <211> 31  
 <212> DNA  
 <213> Chlamydia

<400> 206  
 cagaacgcgt ttagaaccgg actttacttc c

31

<210> 207  
 <211> 50  
 <212> DNA  
 <213> Chlamydia

<400> 207  
 cagacatatg catcaccatc accatcacga ggcgagctcg atccaagatc

50

<210> 208  
 <211> 40  
 <212> DNA  
 <213> Chlamydia

<400> 208

cagaggtacc tcagatagca ctctctccta ttaaagtagg 40

<210> 209

<211> 55

<212> DNA

<213> Chlamydia

<400> 209

cagagctagc atgcatcacc atcaccatca cgtaaagatt gagaacttct ctggc 55

<210> 210

<211> 35

<212> DNA

<213> Chlamydia

<400> 210

cagaggtacc ttagaatgtc atacgagcac cgcag 35

<210> 211

<211> 36

<212> DNA

<213> Chlamydia

<400> 211

cagacatag catcaccatc accatcacgg gttagc 36

<210> 212

<211> 35

<212> DNA

<213> Chlamydia

<400> 212

cagaggtacc tcagctcctc cagcacactc tcttc 35

<210> 213

<211> 51

<212> DNA

<213> Chlamydia

<400> 213

cagagctagc catcaccatc accatcacgg tgctatttct tgcttacgtg g 51

<210> 214

<211> 38

<212> DNA

<213> Chlamydia

<400> 214

cagaggtact taaaagatca atcgcaatcc agtatttcg 38

<210> 215

<211> 48

<212> DNA

<213> Chlamydia

<400> 215  
cagaggatcc acatcaccat caccatcacg gactagctag agaggttc

48

<210> 216  
<211> 31  
<212> DNA  
<213> Chlamydia

<400> 216  
cagagaattc ctagaatcgc agagcaattt c

31

<210> 217  
<211> 7  
<212> DNA  
<213> Chlamydia

<400> 217  
tgcaatc

7

<210> 218  
<211> 22  
<212> PRT  
<213> Chlamydia

<400> 218  
Met Ala Ser Met Thr Gly Gly Gln Gln Met Gly Arg Asp Ser Ser Leu  
1 5 10 15  
Val Pro Ser Ser Asp Pro  
20

<210> 219  
<211> 51  
<212> DNA  
<213> Chlamydia

<400> 219  
cagaggatcc gcacacat caccatcaca tgattcctca aggaatttac g

51

<210> 220  
<211> 33  
<212> DNA  
<213> Chlamydia

<400> 220  
cagagcggcc gcttagaacc ggactttact tcc

33

<210> 221  
<211> 24  
<212> PRT  
<213> Chlamydia

<400> 221  
Met Ala Ser Met Thr Gly Gly Gln Gln Asn Gly Arg Asp Ser Ser Leu  
1 5 10 15  
Val Pro His His His His His

20

<210> 222  
 <211> 46  
 <212> DNA  
 <213> Chlamydia

<400> 222  
 cagagctagc catcaccatc accatcacct ctttgccag gatccc

46

<210> 223  
 <211> 30  
 <212> DNA  
 <213> Chlamydia

<400> 223  
 cagaactagt ctagaacctg taagtgggcc

30

<210> 224  
 <211> 20  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 224  
 Met Ser Gln Lys Asn Lys Asn Ser Ala Phe Met His Pro Val Asn Ile  
 1 5 10 15  
 Ser Thr Asp Leu  
 20

<210> 225  
 <211> 20  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 225  
 Lys Asn Ser Ala Phe Met His Pro Val Asn Ile Ser Thr Asp Leu Ala  
 1 5 10 15  
 Val Ile Val Gly  
 20

<210> 226  
 <211> 20  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 226

His Pro Val Asn Ile Ser Thr Asp Leu Ala Val Ile Val Gly Lys Gly  
 1 5 10 15  
 Pro Met Pro Arg  
 20

<210> 227  
 <211> 20  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 227  
 Ser Thr Asp Leu Ala Val Ile Val Gly Lys Gly Pro Met Pro Arg Thr  
 1 5 10 15  
 Glu Ile Val Lys  
 20

<210> 228  
 <211> 20  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 228  
 Val Ile Val Gly Lys Gly Pro Met Pro Arg Thr Glu Ile Val Lys Lys  
 1 5 10 15  
 Val Trp Glu Tyr  
 20

<210> 229  
 <211> 20  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 229  
 Gly Pro Met Pro Arg Thr Glu Ile Val Lys Lys Val Trp Glu Tyr Ile  
 1 5 10 15  
 Lys Lys His Asn  
 20

<210> 230  
 <211> 20  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

&lt;400&gt; 230

Ile Lys Lys His Asn Cys Gln Asp Gln Lys Asn Lys Arg Asn Ile Leu  
 1 5 10 15  
 Pro Asp Ala Asn  
 20

&lt;210&gt; 231

&lt;211&gt; 20

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Made in a lab

&lt;400&gt; 231

Asn Cys Gln Asp Gln Lys Asn Lys Arg Asn Ile Leu Pro Asp Ala Asn  
 1 5 10 15  
 Leu Ala Lys Val  
 20

&lt;210&gt; 232

&lt;211&gt; 20

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Made in a lab

&lt;400&gt; 232

Lys Asn Lys Arg Asn Ile Leu Pro Asp Ala Asn Leu Ala Lys Val Phe  
 1 5 10 15  
 Gly Ser Ser Asp  
 20

&lt;210&gt; 233

&lt;211&gt; 20

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Made in a lab

&lt;400&gt; 233

Ile Leu Pro Asp Ala Asn Leu Ala Lys Val Phe Gly Ser Ser Asp Pro  
 1 5 10 15  
 Ile Asp Met Phe  
 20

&lt;210&gt; 234

&lt;211&gt; 20

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Made in a lab

&lt;400&gt; 234

Asn	Leu	Ala	Lys	Val	Phe	Gly	Ser	Ser	Asp	Pro	Ile	Asp	Met	Phe	Gln
1				5					10					15	
Met	Thr	Lys	Ala												
			20												

&lt;210&gt; 235

&lt;211&gt; 22

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Made in a lab

&lt;400&gt; 235

Phe	Gly	Ser	Ser	Asp	Pro	Ile	Asp	Met	Phe	Gln	Met	Thr	Lys	Ala	Leu
1				5					10					15	
Ser	Lys	His	Ile	Val	Lys										
			20												

&lt;210&gt; 236

&lt;211&gt; 20

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Made in a lab

&lt;400&gt; 236

Val	Glu	Ile	Thr	Gln	Ala	Val	Pro	Lys	Tyr	Ala	Thr	Val	Gly	Ser	Pro
1				5					10					15	
Tyr	Pro	Val	Glu												
			20												

&lt;210&gt; 237

&lt;211&gt; 20

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Made in a lab

&lt;400&gt; 237

Ala	Val	Pro	Lys	Tyr	Ala	Thr	Val	Gly	Ser	Pro	Tyr	Pro	Val	Glu	Ile
1				5					10					15	
Thr	Ala	Thr	Gly												
			20												

&lt;210&gt; 238

&lt;211&gt; 20

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Made in a lab

<400> 238

Ala	Thr	Val	Gly	Ser	Pro	Tyr	Pro	Val	Glu	Ile	Thr	Ala	Thr	Gly	Lys
1				5					10					15	
Arg	Asp	Cys	Val												
				20											

<210> 239

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 239

Pro	Tyr	Pro	Val	Glu	Ile	Thr	Ala	Thr	Gly	Lys	Arg	Asp	Cys	Val	Asp
1				5					10					15	
Val	Ile	Ile	Thr												
				20											

<210> 240

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 240

Ile	Thr	Ala	Thr	Gly	Lys	Arg	Asp	Cys	Val	Asp	Val	Ile	Ile	Thr	Gln
1				5					10					15	
Gln	Leu	Pro	Cys	Glu											
				20											

<210> 241

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 241

Lys	Arg	Asp	Cys	Val	Asp	Val	Ile	Ile	Thr	Gln	Gln	Leu	Pro	Cys	Glu
1				5					10					15	
Ala	Glu	Phe	Val												
				20											

<210> 242

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 242

Asp	Val	Ile	Ile	Thr	Gln	Gln	Leu	Pro	Cys	Glu	Ala	Glu	Phe	Val	Arg
1				5					10					15	
Ser	Asp	Pro	Ala												
			20												

<210> 243

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 243

Thr	Gln	Gln	Leu	Pro	Cys	Glu	Ala	Glu	Phe	Val	Arg	Ser	Asp	Pro	Ala
1				5					10					15	
Thr	Thr	Pro	Thr												
			20												

<210> 244

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 244

Cys	Glu	Ala	Glu	Phe	Val	Arg	Ser	Asp	Pro	Ala	Thr	Thr	Pro	Thr	Ala
1				5					10					15	
Asp	Gly	Lys	Leu												
			20												

<210> 245

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 245

Val	Arg	Ser	Asp	Pro	Ala	Thr	Thr	Pro	Thr	Ala	Asp	Gly	Lys	Leu	Val
1				5					10					15	
Trp	Lys	Ile	Asp												
			20												

<210> 246

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 246

Ala	Thr	Thr	Pro	Thr	Ala	Asp	Gly	Lys	Leu	Val	Trp	Lys	Ile	Asp	Arg
1				5					10					15	
Leu	Gly	Gln	Gly												
				20											

<210> 247

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 247

Ala	Asp	Gly	Lys	Leu	Val	Trp	Lys	Ile	Asp	Arg	Leu	Gly	Gln	Gly	Glu
1				5					10					15	
Lys	Ser	Lys	Ile												
				20											

<210> 248

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 248

Val	Trp	Lys	Ile	Asp	Arg	Leu	Gly	Gln	Gly	Glu	Lys	Ser	Lys	Ile	Thr
1				5					10					15	
Val	Trp	Val	Lys												
				20											

<210> 249

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 249

Arg	Leu	Gly	Gln	Gly	Glu	Lys	Ser	Lys	Ile	Thr	Val	Trp	Val	Lys	Pro
1				5					10					15	
Leu	Lys	Glu	Gly												
				20											

<210> 250

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 250

Gly	Glu	Lys	Ser	Lys	Ile	Thr	Val	Trp	Val	Lys	Pro	Leu	Lys	Glu	Gly
1				5				10					15		
Cys	Cys	Phe	Thr												
			20												

<210> 251

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 251

Gly	Glu	Lys	Ser	Lys	Ile	Thr	Val	Trp	Val	Lys	Pro	Leu	Lys	Glu	Gly
1				5				10					15		

<210> 252

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 252

Lys	Ile	Thr	Val	Trp	Val	Lys	Pro	Leu	Lys	Glu	Gly
1				5				10			

<210> 253

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 253

Gly	Asp	Lys	Cys	Lys	Ile	Thr	Val	Trp	Val	Lys	Pro	Leu	Lys	Glu	Gly
1				5				10					15		

<210> 254

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

&lt;400&gt; 254

Thr Glu Tyr Pro Leu Leu Ala Asp Pro Ser Phe Lys Ile Ser Glu Ala  
 1 5 10 15  
 Phe Gly Val Leu  
 20

&lt;210&gt; 255

&lt;211&gt; 20

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Made in a lab

&lt;400&gt; 255

Leu Ala Asp Pro Ser Phe Lys Ile Ser Glu Ala Phe Gly Val Leu Asn  
 1 5 10 15  
 Pro Glu Gly Ser  
 20

&lt;210&gt; 256

&lt;211&gt; 20

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Made in a lab

&lt;400&gt; 256

Phe Lys Ile Ser Glu Ala Phe Gly Val Leu Asn Pro Glu Gly Ser Leu  
 1 5 10 15  
 Ala Leu Arg Ala  
 20

&lt;210&gt; 257

&lt;211&gt; 20

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Made in a lab

&lt;400&gt; 257

Ala Phe Gly Val Leu Asn Pro Glu Gly Ser Leu Ala Leu Arg Ala Thr  
 1 5 10 15  
 Phe Leu Ile Asp  
 20

&lt;210&gt; 258

&lt;211&gt; 20

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Made in a lab

&lt;400&gt; 258

Asn Pro Glu Gly Ser Leu Ala Leu Arg Ala Thr Phe Leu Ile Asp Lys  
 1                      5                      10                      15  
 His Gly Val Ile  
                     20

&lt;210&gt; 259

&lt;211&gt; 20

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Made in a lab

&lt;400&gt; 259

Leu Ala Leu Arg Ala Thr Phe Leu Ile Asp Lys His Gly Val Ile Arg  
 1                      5                      10                      15  
 His Ala Val Ile  
                     20

&lt;210&gt; 260

&lt;211&gt; 20

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Made in a lab

&lt;400&gt; 260

Thr Phe Leu Ile Asp Lys His Gly Val Ile Arg His Ala Val Ile Asn  
 1                      5                      10                      15  
 Asp Leu Pro Leu  
                     20

&lt;210&gt; 261

&lt;211&gt; 20

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Made in a lab

&lt;400&gt; 261

Lys His Gly Val Ile Arg His Ala Val Ile Asn Asp Leu Pro Leu Gly  
 1                      5                      10                      15  
 Arg Ser Ile Asp  
                     20

&lt;210&gt; 262

&lt;211&gt; 20

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Made in a lab

<400> 262

Arg His Ala Val Ile Asn Asp Leu Pro Leu Gly Arg Ser Ile Asp Glu  
 1 5 10 15  
 Glu Leu Arg Ile  
 20

<210> 263

<211> 897

<212> DNA

<213> Chlamydia

<220>

<221> misc\_feature

<222> (1)...(897)

<223> n = A,T,C or G

<400> 263

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attaaggttg	ccaagtctgc	tgccgaattg	accgcaaata	ttttggaaca	agctggaggc	180
gcgggctctt	ccgcacacat	tacagcttcc	caagtgtcca	aaggattagg	ggatgcgaga	240
actggtgtcg	ctttagggaa	tgcttttaac	ggagcgttgc	caggaacagt	tcaaagtgcg	300
caaagcttct	tctctcacat	gaaagctgct	agtcagaaaa	cgcaagaagg	ggatgagggg	360
ctcacagcag	atctttgtgt	gtctcataag	cgcagagcgg	ctgcggctgt	ctgtagcatc	420
atcggaggaa	ttacctacct	cgcgacattc	ggagctatcc	gtccgattct	gtttgtcaac	480
aaaatgctgg	caaaaccgtt	tctttcttcc	caaaactaaag	caaatatggg	atcttctggt	540
agctatatta	tggcggctaa	ccatgcagcg	tctgtgggtg	gtgctggact	cgctatcagt	600
gcnnaaagag	cagattgcga	agcccgttgc	gctcgtattg	cgagagaaga	gtcgttactc	660
gaagtgtccg	gagagyaaaa	tgcttgccag	aagaaagtcg	ctggagagaa	agccaagacg	720
ttcacgcgca	tcaagtatgc	actcctcact	atgctcgaga	agtttttgya	atgcgttgcc	780
gacgttttca	aattgggtgcc	gctgcctatt	acaatgggta	ttcgtgcgat	tgtggctgct	840
ggatgtacgt	tcacttctgc	aattattgga	ttgtgcactt	tctgcgccag	agcataa	897

<210> 264

<211> 298

<212> PRT

<213> Chlamydia

<220>

<221> VARIANT

<222> (1)...(298)

<223> Xaa = Any Amino Acid

<400> 264

Met	Ala	Ser	Ile	Cys	Gly	Arg	Leu	Gly	Ser	Gly	Thr	Gly	Asn	Ala	Leu
1				5				10					15		
Lys	Ala	Phe	Phe	Thr	Gln	Pro	Asn	Asn	Lys	Met	Ala	Arg	Val	Val	Asn
		20					25					30			
Lys	Thr	Lys	Gly	Val	Asp	Lys	Thr	Ile	Lys	Val	Ala	Lys	Ser	Ala	Ala
		35				40				45					
Glu	Leu	Thr	Ala	Asn	Ile	Leu	Glu	Gln	Ala	Gly	Gly	Ala	Gly	Ser	Ser
	50				55					60					
Ala	His	Ile	Thr	Ala	Ser	Gln	Val	Ser	Lys	Gly	Leu	Gly	Asp	Ala	Arg

65		70		75		80									
Thr	Val	Val	Ala	Leu	Gly	Asn	Ala	Phe	Asn	Gly	Ala	Leu	Pro	Gly	Thr
			85						90					95	
Val	Gln	Ser	Ala	Gln	Ser	Phe	Phe	Ser	His	Met	Lys	Ala	Ala	Ser	Gln
			100						105					110	
Lys	Thr	Gln	Glu	Gly	Asp	Glu	Gly	Leu	Thr	Ala	Asp	Leu	Cys	Val	Ser
			115						120					125	
His	Lys	Arg	Arg	Ala	Ala	Ala	Ala	Val	Cys	Ser	Ile	Ile	Gly	Gly	Ile
			130						135					140	
Thr	Tyr	Leu	Ala	Thr	Phe	Gly	Ala	Ile	Arg	Pro	Ile	Leu	Phe	Val	Asn
			145						150					155	
Lys	Met	Leu	Ala	Lys	Pro	Phe	Leu	Ser	Ser	Gln	Thr	Lys	Ala	Asn	Met
			165						170					175	
Gly	Ser	Ser	Val	Ser	Tyr	Ile	Met	Ala	Ala	Asn	His	Ala	Ala	Ser	Val
			180						185					190	
Val	Gly	Ala	Gly	Leu	Ala	Ile	Ser	Ala	Xaa	Arg	Ala	Asp	Cys	Glu	Ala
			195						200					205	
Arg	Cys	Ala	Arg	Ile	Ala	Arg	Glu	Glu	Ser	Leu	Leu	Glu	Val	Pro	Gly
			210						215					220	
Glu	Glu	Asn	Ala	Cys	Glu	Lys	Lys	Val	Ala	Gly	Glu	Lys	Ala	Lys	Thr
			225						230					235	
Phe	Thr	Arg	Ile	Lys	Tyr	Ala	Leu	Leu	Thr	Met	Leu	Glu	Lys	Phe	Leu
			245						250					255	
Glu	Cys	Val	Ala	Asp	Val	Phe	Lys	Leu	Val	Pro	Leu	Pro	Ile	Thr	Met
			260						265					270	
Gly	Ile	Arg	Ala	Ile	Val	Ala	Ala	Gly	Cys	Thr	Phe	Thr	Ser	Ala	Ile
			275						280					285	
Ile	Gly	Leu	Cys	Thr	Phe	Cys	Ala	Arg	Ala						
			290						295						

&lt;210&gt; 265

&lt;211&gt; 897

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (897)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 265

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attaagggtg	ccaagtctgc	tgccgaattg	accgcaaata	ttttggaaca	agctggaggc	180
gcgggctctt	ccgcacacat	tacagcttcc	caagtgtcca	aaggattagg	ggatgcgaga	240
actgttgctg	ctttagggaa	tgcttttaac	ggagcgttgc	caggaacagt	tcaaagtgcg	300
caaagcttct	tctctcacat	gaaagctgct	agtcagaaaa	cgcaagaagg	ggatgagggg	360
ctcacagcag	atctttgtgt	gtctcataag	cgcagagcgg	ctgctggctgt	ctgtagcatc	420
atcggaggaa	ttacctacct	cgcgacattc	ggagctatcc	gtccgattct	gtttgtcaac	480
aaaatgctgg	caaaaccgtt	tctttcttcc	caaactaaag	caaatatggg	atcttctggt	540
agctatatta	tggcggctaa	ccatgcagcg	tctgtgttgg	gtgctggact	cgctatcagt	600
gcgnaaagag	cagattgcga	agcccgtctg	gctcgtattg	cgagagaaga	gtcgttactc	660
gaagtgccgg	gagaggaaaa	tgcttgcgag	aagaaagtgc	ctggagagaa	agccaagacg	720
ttcacgcgca	tcaagtatgc	actcctcact	atgctcgaga	agtttttgga	atgcgttgcc	780
gacgttttca	aattgggtgcc	gctgcctatt	acaatgggta	ttcgtgcgat	tgtggctgct	840

ggatgtacgt tcacttctgc aattattgga ttgtgcactt tctgcgccag agcataa

897

<210> 266

<211> 298

<212> PRT

<213> Chlamydia

<220>

<221> VARIANT

<222> (1)...(298)

<223> Xaa = Any Amino Acid

<400> 266

Met	Ala	Ser	Ile	Cys	Gly	Arg	Leu	Gly	Ser	Gly	Thr	Gly	Asn	Ala	Leu
1				5					10					15	
Lys	Ala	Phe	Phe	Thr	Gln	Pro	Asn	Asn	Lys	Met	Ala	Arg	Val	Val	Asn
			20					25					30		
Lys	Thr	Lys	Gly	Met	Asp	Lys	Thr	Ile	Lys	Val	Ala	Lys	Ser	Ala	Ala
		35					40					45			
Glu	Leu	Thr	Ala	Asn	Ile	Leu	Glu	Gln	Ala	Gly	Gly	Ala	Gly	Ser	Ser
	50				55					60					
Ala	His	Ile	Thr	Ala	Ser	Gln	Val	Ser	Lys	Gly	Leu	Gly	Asp	Ala	Arg
65					70					75				80	
Thr	Val	Val	Ala	Leu	Gly	Asn	Ala	Phe	Asn	Gly	Ala	Leu	Pro	Gly	Thr
				85					90					95	
Val	Gln	Ser	Ala	Gln	Ser	Phe	Phe	Ser	His	Met	Lys	Ala	Ala	Ser	Gln
			100					105					110		
Lys	Thr	Gln	Glu	Gly	Asp	Glu	Gly	Leu	Thr	Ala	Asp	Leu	Cys	Val	Ser
		115				120						125			
His	Lys	Arg	Arg	Ala	Ala	Ala	Ala	Val	Cys	Ser	Ile	Ile	Gly	Gly	Ile
	130					135					140				
Thr	Tyr	Leu	Ala	Thr	Phe	Gly	Ala	Ile	Arg	Pro	Ile	Leu	Phe	Val	Asn
145					150					155				160	
Lys	Met	Leu	Ala	Lys	Pro	Phe	Leu	Ser	Ser	Gln	Thr	Lys	Ala	Asn	Met
				165					170					175	
Gly	Ser	Ser	Val	Ser	Tyr	Ile	Met	Ala	Ala	Asn	His	Ala	Ala	Ser	Val
			180					185					190		
Val	Gly	Ala	Gly	Leu	Ala	Ile	Ser	Ala	Xaa	Arg	Ala	Asp	Cys	Glu	Ala
	195						200					205			
Arg	Cys	Ala	Arg	Ile	Ala	Arg	Glu	Glu	Ser	Leu	Leu	Glu	Val	Pro	Gly
	210					215						220			
Glu	Glu	Asn	Ala	Cys	Glu	Lys	Lys	Val	Ala	Gly	Glu	Lys	Ala	Lys	Thr
225					230					235				240	
Phe	Thr	Arg	Ile	Lys	Tyr	Ala	Leu	Leu	Thr	Met	Leu	Glu	Lys	Phe	Leu
			245						250					255	
Glu	Cys	Val	Ala	Asp	Val	Phe	Lys	Leu	Val	Pro	Leu	Pro	Ile	Thr	Met
		260					265						270		
Gly	Ile	Arg	Ala	Ile	Val	Ala	Ala	Gly	Cys	Thr	Phe	Thr	Ser	Ala	Ile
	275						280					285			
Ile	Gly	Leu	Cys	Thr	Phe	Cys	Ala	Arg	Ala						
	290					295									

<210> 267

<211> 680

<212> DNA

## &lt;213&gt; Chlamydia

&lt;400&gt; 267

tctatatcca	tattgatagg	aaaaaacgtc	gcagaaagat	tttagctatg	acgtttatcc	60
gagcttttagg	atattcaaca	gatgcagata	ttattgaaga	gttcttttct	gtagaggagc	120
gttccttacg	ttcagagaag	gattttgtcg	cgttagttagg	taaagttaa	gctgataacg	180
tagttgatgc	ggattcttca	ttagttagc	ggaaagctgg	agagaagcta	agtactgcta	240
tgctaaaacg	catcttagat	acgggagtc	aatctttgaa	gattgctgtt	ggcgagatg	300
aaaatcacc	aattattaag	atgctcgcaa	aagatcctac	ggattcttac	gaagctgctc	360
ttaaagattt	ttatcgaga	ttacgaccag	gagagcctgc	aacttttagct	aatgctcgat	420
ccacaattat	gcgtttatc	ttcgatgcta	aacgttataa	tttaggccgc	gttgagcgtt	480
ataaattaaa	taaaaaatta	ggcttcccat	tagacgacga	aacattatct	caagtgactt	540
tgagaaaaga	agatgttatc	ggcgcggtga	aatatttgat	tcgtttgcga	atgggcgatg	600
agaagacatc	tatcgatgat	attgaccatt	tggcaaaccg	acgagttcgc	tctgttggag	660
aactaattca	gaatcactgt					680

&lt;210&gt; 268

&lt;211&gt; 359

&lt;212&gt; DNA

## &lt;213&gt; Chlamydia

&lt;400&gt; 268

cttatgttct	ggagaatggt	gcaacaacat	attaatcgaa	ccagctcctc	ctagtaacat	60
agaaaccaag	cccttttgag	aaaaaacctg	tacttcgcat	ccttttagcca	tttggtgaat	120
agctcctaac	aaagagctaa	tttttccctc	ttccttggtt	ttctgaggcg	ctgtggactc	180
taaatatagc	aagtgtctct	ggaacacctc	atcaacaatc	gcttgctcta	gattaggtat	240
agagactgtc	tctccatcaa	ttaaatggag	tttcaaagta	atccccctt	ccgtccctcc	300
atcacaagac	tctatgaaag	ctatctgatt	ccatcgagca	gaaatgtatg	gggaaatac	359

&lt;210&gt; 269

&lt;211&gt; 124

&lt;212&gt; DNA

## &lt;213&gt; Chlamydia

&lt;400&gt; 269

gatcgaatca	attgagggag	ctcattaaca	agaatagctg	cagtttcttt	gcgttcttct	60
ggaataacaa	gaaataggta	atcggtacca	ttgatagaac	gaacacgaca	aatcgcagaa	120
ggtt						124

&lt;210&gt; 270

&lt;211&gt; 219

&lt;212&gt; DNA

## &lt;213&gt; Chlamydia

&lt;400&gt; 270

gatcctgttg	ggcctagtaa	taatacgttg	gatttcccat	aactcacttg	tttatacctgc	60
ataagagcac	ggatacgctt	atagtggta	tagacggcaa	ccgaaatcgt	ttttttcgcg	120
cgctcttgtc	caatgacata	agagtcgatg	tggcggttga	tttcttttagg	ggttaacact	180
ctcagacttg	ttggagagct	tgtggaagat	ggtgcgatc			219

&lt;210&gt; 271

&lt;211&gt; 511

&lt;212&gt; DNA

## &lt;213&gt; Chlamydia

<220>  
 <221> misc\_feature  
 <222> (1)...(511)  
 <223> n = A,T,C or G

<400> 271  
 ggatccgaat tcggcacgag gagaaaatat aggaggttcc akcatcggaa gatctaatag 60  
 acaaagaggt tttggcatag atggctcctc cttgtacgtt caacgatgat tgggagggat 120  
 tggtatcgat agcttggttc ccagagaact gacaagtcct gctacattga gagaatgtaa 180  
 cctgttctcc atagatagct cctcctacta cacctgaata agttggtgtt gctggagatg 240  
 atggtgcggc tgctgcggct gcttgtaggg aagcagcagc tgcagcaggt gctgaagctg 300  
 ttgttcgac tcctgtggat gaggagtttg ctttgttgtt cgagaaagag aagcctgatt 360  
 tcagattaga aatatttaca gtttttagcat gtaagcctcc accttctttc ccaacaagg 420  
 tctctgttac agataaggag actagangca tctagtttta aagatttttt acagcagata 480  
 cctccaccta tctctgtagc ggagtttctca g 511

<210> 272  
 <211> 598  
 <212> DNA  
 <213> Chlamydia

<400> 272  
 ctcttctctt cctcaatcta gttctggagc aactacagtc tccgactcag gagactctag 60  
 ctctggctca aactcggata cctcaaaaac agttccagtc acagctaaag gcggtgggct 120  
 ttatactgat aagaatcttt cgattactaa catcacagga attatcgaaa ttgcaaataa 180  
 caaagcgaca gatgttgagg gtggtgctta cgtaaaagga acccttactt gtaaaaactc 240  
 tcaccgtcta caatttttga aaaactcttc cgataaaaca ggtggaggaa tctacggaga 300  
 agacaacatc accctatcta atttgacagg gaagactcta tccaagaga atactgccaa 360  
 aaaagagggc ggtggactct tcataaaaagg tacagataaa gctcttaca tgacaggact 420  
 ggatagtttc tgtttaatta ataacacatc agaaaaacat ggtggtggga gcctttgtta 480  
 ccaaagaaat ctctcagact tacacctctt gatgtggaaa caattccagg aatcacgcct 540  
 gtacatggtg aaacagtcac tactggcaat aaatctacag gaggtaatgg tggagggc 598

<210> 273  
 <211> 126  
 <212> DNA  
 <213> Chlamydia

<400> 273  
 ggatccgaat tcggcacgag atgagcctta tagtttaaca aaagcttctc acattccttc 60  
 gatagctttt tattagccgt ttttagcatc ctaatgagat ctctcgttc gtaacaaata 120  
 cgagag 126

<210> 274  
 <211> 264  
 <212> DNA  
 <213> Chlamydia

<400> 274  
 ggatccgaat tcggcacgag ctcttttaaa tcttaattac aaaaagacaa attaattcaa 60  
 tttttcaaaa aagaatttaa acattaattg ttgtaaaaaa acaatattta ttctaaaata 120  
 ataaccatag ttacggggga atctctttca tggtttattt tagagctcat caacctaggc 180  
 atacgcctaa aacatttcct ttgaaagttc accattcgtt ctccgataag catcctcaaa 240  
 ttgctaaagc tatgtggatt acgg 264

<210> 275  
 <211> 359  
 <212> DNA  
 <213> Chlamydia

<400> 275  
 ggatccgaat tcggcacgag ataaaacctg aaccacaaca aagatctaaa acttcttgat 60  
 tttcagctgc aaattctttt agataaatat caaccatttc ttcagtttca tatcttggaa 120  
 ttaaaacttg ttctcttaaa ttaattctag tatttaagta ttcaacatag cccattatta 180  
 attgaattgg ataattttgc cttaataatt cacattcttt ttcagtaatt ttaggttcta 240  
 aaccgtaccg ctttttttct aaaattaatg tttcttcatt attcatttta taagccactt 300  
 tcctttatct tttgattttg ttcttctggt agtaatgctt caataatagt taataattt 359

<210> 276  
 <211> 357  
 <212> DNA  
 <213> Chlamydia

<400> 276  
 aaaacaattg atataatttt ttttttcata acttccagac tcctttctag aaaagtcttt 60  
 atgggtagta gtgactctaa cgttttttat tattaagacg atccccggag atccttttaa 120  
 tgatgaaaac ggaaacatcc ttccgccaga aacttttagca ctattaaaga atcgttacgg 180  
 gttagataag cctttattca cccagtatct tatctatttg aaatgtctgc taacactaga 240  
 tttcggggaa tctcttatct acaaagatcg aaatctcagc attattgctg ccgctcttcc 300  
 atcttccgct attcttggac ttgaaagctt gtgtttactc gtgccgaatt cggatcc 357

<210> 277  
 <211> 505  
 <212> DNA  
 <213> Chlamydia

<400> 277  
 ggatccgaat tcggcacgag ctctgtgccg ttgcttgctt cagtcacccc atcggtatag 60  
 agcactaaaa gagactcttc ttcaagaacg agagtgttag cagggtgagg aggaacttca 120  
 ggtaaaaatc ctaaggccat accaggatgc gacaggaaag agatatctcc attaggagct 180  
 cggagacacg ctgggtttgt gccacaagaa tagtattcta gttctcgtgt tgcgtaatga 240  
 taacaataaa tgcatagtgt tacaacatc ccagattcag ctgtctgttg atagaagaga 300  
 gcagctgttt gttgaacggc ttcttgaata gaggagagct cactcaaaaa ggtatgtaac 360  
 atgtttttca ggaataagga gtaggcgcac gcattgactc ctttcccgga agcatcagca 420  
 acgattagaa agagtttagc ttggggacct tcgcctataa caaagatatc aaagaaatct 480  
 cctcctaccg taactgcagg aatat 505

<210> 278  
 <211> 407  
 <212> DNA  
 <213> Chlamydia

<400> 278  
 ggatccgaat tcggcacgag aactactgag caaattgggt atccaacttc ctctttacga 60  
 aagaaaaaca gaaggcattc tccataccaa gatattgtgc atcgacaata aaactccaat 120  
 ctttggctct gctaactgga gcggtgctgg tatgattaaa aactttgaag acctattcat 180  
 ccttcgcccc attacagaga cacagttca ggcctttatg gacgtctggt ctcttctaga 240  
 aacaaatagc tcctatctgt ccccagagag cgtgcttacg gccctactc cttcaagtag 300  
 acctactcaa caagatacag attctgatga cgaacaaccg agtaccagcc agcaagctat 360  
 ccgtatgaga aaataggatt agggaaacaa aacgacagca aaccaca 407

<210> 279  
 <211> 351  
 <212> DNA  
 <213> Chlamydia

<400> 279  
 ctctgtgccgc ttacaggagg cttgtatcct ttaaaataga gtttttctta tgaccccatg 60  
 tggcgatagg ccgggtctag cgccgatagt agaaatatcg gttgggtttt gtccttgagg 120  
 ggatcgtata ctttttcaaa gtatgggtccc cgtatcgatt atctggaggc tcttatgtct 180  
 ttttttcata ctagaaaata taagcttata ctcagaggac tcttgtgttt agcaggctgt 240  
 ttcttaatga acagctgttc ctctagtcga ggaaatcaac ccgctgatga gagcatctat 300  
 gtcttgtcta tgaatcgcat gatttgtgat tctcgtgccg aattcggatc c 351

<210> 280  
 <211> 522  
 <212> DNA  
 <213> Chlamydia

<400> 280  
 ggatccgaat tcggcacgag cagaggaaaa aggcgatact cctcttgaag atcgtttcac 60  
 agaagatctt tccgaagtct ctggagaaga ttttcgagga ttgaaaaatt cgttcgatga 120  
 tgattcttct tctgacgaaa ttctcgatgc gctcacaagt aaattttctg atcccacaat 180  
 aaaggatcta gctcttgatt atctaattca aatagctccc tctgatggga aacttaagtc 240  
 cgctctcatt caggcaaagc atcaactgat gagccagaat cctcaggcga ttgttgaggg 300  
 acgcaatgtt ctgttagctt cagaaacctt tgcttcacga gcaaatacat ctccctcatc 360  
 gcttcgctcc ttatatttcc aagtaacctc atccccctct aattgcgcta atttacatca 420  
 aatgcttgct tcttactcgc catcagagaa aaccgctgtt atggagtttc tagtgaatgg 480  
 catggttagca gatttaaaat cggaggggccc ttccattcct cc 522

<210> 281  
 <211> 577  
 <212> DNA  
 <213> Chlamydia

<400> 281  
 ggatccgaat tcggcacgag atgcttctat tacaattggg ttggatgcgg aaaaagctta 60  
 ccagcttatt ctagaaaagt tgggagatca aattcttggg ggaattgctg atactattgt 120  
 tgatagtaca gtccaagata ttttagacaa aatcacacaa gacccttctc taggtttgtt 180  
 gaaagctttt aacaactttc caatcactaa taaaattcaa tgcaacgggt tattcactcc 240  
 caggaacatt gaaactttat taggaggaac tgaaatagga aaattcacag tcacacccaa 300  
 aagctctggg agcatgttct tagtctcagc agatattatt gcatcaagaa tgggaaggcgg 360  
 cgttggttcta gctttggtac gagaagggtga ttctaagccc tacgcgatta gttatggata 420  
 ctcatcaggc gttcctaatt tatgtagtct aagaaccaga attattaata caggattgac 480  
 tccgacaacg tattcattac gtgtaggcgg tttagaaagc ggtgtggtat gggttaatgc 540  
 ccttttcta at ggcaatgata ttttaggaat aacaaat 577

<210> 282  
 <211> 607  
 <212> DNA  
 <213> Chlamydia

<400> 282  
 actmatcttc cccgggctcg agtgcgggcg caagcttgct gacggagctc gatacaaaaa 60  
 tgtgtgcgtg tgaaccgctt cttcaaaagc ttgtcttaaa agatattgtc tcgcttcagg 120

attagttaca	tgtttaaaaa	ttgctagaac	aatattatct	ccaaccaagc	tctctgcggt	180
gctgaaaaaa	cctaaattca	aaagaatgac	tcgccgctca	tcttcagaaa	gacgatccga	240
cttccataat	tcgatgtctt	tccccatggg	gatctctgta	gggagccagt	tatttgcgca	300
gccattcaaa	taatgttccc	aagcccattt	gtacttaata	ggaacaagtt	ggttgacatc	360
gacctggttg	cagttcacta	gacgcttgct	atttagatta	acgcgtttct	gttttccatc	420
taaaatatct	gcttgcataa	gaaccgttaa	ttttattggt	aatttatatg	attaattact	480
gacatgcttc	acacccttct	tccaaagaac	agacagggtgc	tttcttcgct	ctttcaacaa	540
taattcctgc	cgaagcagac	ttattcttca	tccaacgagg	ctgaattcct	ctcttattaa	600
tatctac						607

&lt;210&gt; 283

&lt;211&gt; 1077

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 283

ggatccgaat	tcggcacgag	aagttaacga	tgacgatttg	ttcctttggt	agagaaggag	60
caatcgaaac	taaatgtgcg	agagcatgtg	aagactccaa	tgcaggaata	atcccctcat	120
ttctagtaag	caggaaaaaa	gctcgtaacg	cctcttcac	ggtaggtaat	gtataaaaagg	180
ctcgtcctga	ctcatgcatt	tcggcatgat	ctggcccaac	tgaaggataa	tctaattccag	240
cggaaatgga	gtgagtttgt	aatacttgct	catcgctcat	ttgaagaaga	tacgaataaaa	300
atccgtggaa	tactccaggt	cgccttggtg	caaaacgtgc	tgcattgttt	cctgaagaaa	360
tgcccagtc	tcccccttcc	actccaatta	attggacttt	tggattcggg	ataaaatgat	420
ggaaaaatcc	aatagcgttg	gagccacctc	cgatacatgc	aatcagaata	tcaggatctc	480
ttcctgcaac	tgcatggatt	tgctctttca	cttcagcgtc	tataacagac	tgaaaaaatc	540
gaacgatatc	gggataaggt	aaaggtccta	aggccgatcc	taagcaatag	tgagtaaagt	600
agtgtgttgt	tgcccaatct	tgtagagctt	gattaactgc	atctttgagt	ccacaagatc	660
cttttggtac	agaaacgact	tcagcaccta	aaaagcgc	tttctctaca	tttggtttct	720
gtcgttccac	atcttttgct	cccatgtata	ctacacaatc	taactctaga	taagcacacg	780
ctgttgctgt	tgctactcca	tgttggtccc	cacctgttcc	agctacaaca	cgtgttttcc	840
caagatatct	agcaagcaaa	cactgaccaa	gagcattatt	cagtttatgt	gctcctgtat	900
gcaaaagatc	ttcgcgttta	agaaatactc	tagggccatc	aatagctcga	gcaaaattct	960
taacttcagt	cagaggagtt	tgtctccccg	catagttttt	caaaatacaa	tctagttcag	1020
ataaaaaact	ttgctgagtt	ttgagaatct	cccattccgc	ttttagattc	tgtatag	1077

&lt;210&gt; 284

&lt;211&gt; 407

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 284

ggatccgaat	tcggcacgag	aactactgag	caaattgggt	atccaacttc	ctcttttacga	60
aagaaaaaca	gaaggcattc	tccataccaa	gatttggtgc	atcgacaata	aaactccaat	120
ctttggtctt	gctaactgga	gcggtgctgg	tatgattaaa	aactttgaag	acctattcat	180
ccttcgccca	attacagaga	cacagcttca	ggcctttatg	gacgtctggt	ctcttctaga	240
aacaaaatgc	tcctatctgt	ccccagagag	cgtgcttacg	gcccctactc	cttcaagtag	300
acctactcaa	caagatacag	attctgatga	cgaacaaccg	agtaccagcc	agcaagctat	360
ccgtatgaga	aaataggatt	agggaaacaa	aacgacagca	aaccaca		407

&lt;210&gt; 285

&lt;211&gt; 802

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 285

ggatccgaat	tcggcacgag	ttagcttaat	gtctttgtca	tctctaccta	catttgcagc	60
taattctaca	ggcacaattg	gaatcgtaa	tttacgtcgc	tgcctagaag	agtctgctct	120
tgggaaaaaa	gaatctgctg	aattcgaaaa	gatgaaaaac	caattctcta	acagcatggg	180
gaagatggag	gaagaactgt	cttctatcta	ttccaagctc	caagacgacg	attacatgga	240
aggtctatcc	gagaccgcag	ctgccgaatt	aagaaaaaaa	ttcgaagatc	tatctgcaga	300
atacaacaca	gctcaagggc	agtattacca	aataattaaac	caaagtaatc	tcaagcgcat	360
gcaaaaagatt	atggaagaag	tgaaaaaagc	ttctgaaact	gtgcgtattc	aagaaggctt	420
gtcagtcctt	cttaacgaag	atattgtctt	atctatcgat	agttcggcag	ataaaaccga	480
tgctgttatt	aaagttcttg	atgattcttt	tcaaaataat	taacatgcga	agctagccga	540
ggagtgccgt	atgtctcaat	ccacttattc	tcttgaacaa	ttagctgatt	ttttgaaagt	600
cgagtttcaa	ggaaatggag	ctactcttct	ttccggagtt	gaagagatcg	aggaagcaaa	660
aacggcacac	atcacattct	tagataatga	aaaatatgct	aaacatttaa	aatcatcgga	720
agctggcgct	atcatcatat	ctcgaacaca	gtttcaaaaa	tatcgagact	tgaataaaaa	780
ctttcttctc	acttctgagt	ct				802

&lt;210&gt; 286

&lt;211&gt; 588

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 286

ggatccgaat	tcggcacgag	gcaatattta	ctcccaacat	tacggttcca	aataagcgat	60
aaggctcttc	aataaggaag	ttaatgtaag	aggtcttttt	attgcttttc	gtaaggtagt	120
attgcaaccg	cacgcgattg	aatgatacgc	aagccatttc	catcatggaa	aagaaccctt	180
ggacaaaaat	acaaaggagg	ttcactccta	accagaaaaa	gggagagtta	gtttccatgg	240
gttttcctta	tatacacccg	tttcacacaa	ttaggagccg	cgtctagtat	ttggaataca	300
aat'tgtcccc	aagcgaattt	tgttcctggt	tcagggattt	ctcctaattg	ttctgtcagc	360
catccgccta	tggttaacgca	attagctgta	gtaggaagat	caactccaaa	caggtcatag	420
aaatcagaaa	gctcataggt	gcctgcagca	ataacaacat	tcttgtctga	gtgagcgaat	480
tgtttaaaag	atgggcgatt	atgagctacc	tcattcagaga	ctatttttaa	tagatcattt	540
tgggtaatca	atccttctat	agacccatat	tcattcaatga	taatctcg		588

&lt;210&gt; 287

&lt;211&gt; 489

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(489)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 287

agtgcctatt	gttttgcagg	ctttgtctga	tgatagcgat	accgtacgtg	agattgctgt	60
acaagtagct	gttatgtatg	gttctagttg	cttactgcgc	gccgtgggcg	atttagcgaa	120
aaatgattct	tctattcaag	tacgcatac	tgcttatcgt	gctgcagccg	tggtggagat	180
acaagatctt	gtgcctcatt	tacgagttgt	agtccaaaat	acacaattag	atggaacgga	240
aagaagagaa	gcttggagat	ctttatgtgt	tcttactcgg	cctcatagtg	gtgtattaac	300
tggcatagat	caagctttta	tgacctgtga	gatgttaaag	gaatatcctg	aaaagtgtac	360
ggaagaacag	attcgtacat	tattggctgc	agatcatcca	gaagtgcagg	tagctacttt	420
acagatcatt	ctgagaggag	gtagagtatt	ccggtcatct	tctataatgg	aatcgggtct	480
cgtgccgnt						489

&lt;210&gt; 288

&lt;211&gt; 191

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 288

ggatccgaat	tcaggatatg	ctgttgggtt	atcaataaaa	aggggttttgc	catttttttaa	60
gacgactttg	tagataacgc	taggagctgt	agcaataata	tcgagatcaa	attctctaga	120
gattctctca	aagatgattt	ctaagtgcag	cagtcctaaa	aatccacagc	ggaacccaaa	180
tccgagagag	t					191

&lt;210&gt; 289

&lt;211&gt; 515

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 289

ggatccgaat	tcggcacgag	gagcgacgtg	aaatagtggg	atcttcccgt	attcttatta	60
cttctgcgtt	gccttacgca	aatggtcctt	tgcatttttg	acatattacc	ggtgcttatt	120
tgctgcgaga	tgtttatgcg	cgttttcaga	gactacaagg	caaagagggt	ttgtatattt	180
gtggttctga	tgaatacggg	atcgcaatta	cccttaatgc	agagttggca	ggcatggggg	240
atcaagaata	tgtcgacatg	tatcataagc	ttcataaaga	taccttcaag	aaattgggaa	300
tttctgtaga	tttcttttcc	agaactacga	acgcttatca	tcctgctatt	gtgcaagatt	360
tctatcgaaa	cttgaggaa	cgcggactgg	tagagaatca	ggtgaccgaa	cagctgtatt	420
ctgaggaaga	aggggaagttt	ttagcggacc	gttatgttgt	aggtacttgt	cccaagtgtg	480
ggtttgatcg	agctcgagga	gatgagtgtc	agcag			515

&lt;210&gt; 290

&lt;211&gt; 522

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 290

ggatccgaat	tcggcacgag	ggaggaatgg	aagggccctc	cgattktama	tctgctacca	60
tgccattcac	tagaaactcc	ataacagcgg	ttttctctga	tggcgagtaa	gaagcaagca	120
tttgatgtaa	attagcgcaa	ttagaggggg	atgaggttac	ttggaaatat	aaggagcgaa	180
gcatgaaggg	agatgtattt	gctctggaag	caaaggtttc	tgaagctaac	agaacattgc	240
gtcctccaac	aatcgccctga	ggattctggc	tcacagttg	atgctttgcc	tgaatgagag	300
cggacttaag	tttcccatca	gagggagcta	tttgaattag	ataatcaaga	gctagatcct	360
ttattgtggg	atcagaaaat	ttacttgtga	gcgcacgcag	aatttcgtca	gaagaagaat	420
catcatcgaa	cgaatttttc	aatcctcgaa	aatcttctcc	agagacttcg	gaaagatctt	480
ctgtgaaacg	atcttcaaga	ggagtatcgc	ctttttccyc	tg		522

&lt;210&gt; 291

&lt;211&gt; 1002

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 291

atggcgacta	acgcaattag	atcggcagga	agtgcagcaa	gtaagatgct	gctgccagtt	60
gccaaagaac	cagcggctgt	cagctccttt	gctcagaaag	ggattttattg	tattcaacaa	120
ttttttacaa	accctgggaa	taagtttagca	aagttttag	gggcaacaaa	aagtttagat	180
aaatgcttta	agctaagtaa	ggcggtttct	gactgtgtcg	taggatcgct	ggaagaggcg	240
ggatgcacag	gggacgcatt	gacctccgcg	agaaacgccc	agggtatgtt	aaaaacaact	300
cgagaagtgg	ttgccttagc	taatgtgctc	aatggagctg	ttccatctat	cgtttaactcg	360
actcagaggt	gttaccaata	cacacgtcaa	gccttcgagt	taggaagcaa	gacaaaagaa	420
agaaaaacgc	ctggggagta	tagtaaaatg	ctattaactc	gaggtgatta	cctattggca	480

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gcttccaggg aagcttgtac ggcagtcggt gcaacgactt actcagcgac attcgggtgtt 540
ttacgtccgt taatgttaat caataaactc acagcaaaac cattcttaga caaagcgact 600
gtaggcaatt ttggcacggc tgttgctgga attatgacca ttaatcatat ggcaggagtt 660
gctgggtgctg ttggcggaat cgcattagaa caaaagctgt tcaaactgac gaaggaatcc 720
ctatacaatg agagatgtgc cttagaaaac caacaatctc agttgagtgg ggacgtgatt 780
ctaagcgagg aaagggcatt acgtaaagaa cacgttgcta ctctaaaaag aaatgtttta 840
actcttcttg aaaaagcttt agagttggta gtggatggag tcaaactcat tcctttaccg 900
attacagtgg cttgctccgc tgcaatttct ggagccttga cggcagcatc cgcaggaatt 960
ggcttatata gcatatggca gaaaacaaag tctggcaaat aa 1002

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&lt;210&gt; 292

&lt;211&gt; 333

&lt;212&gt; PRT

&lt;213&gt; Chlamydia

&lt;400&gt; 292

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Met Ala Thr Asn Ala Ile Arg Ser Ala Gly Ser Ala Ala Ser Lys Met.
 1          5          10          15
Leu Leu Pro Val Ala Lys Glu Pro Ala Ala Val Ser Ser Phe Ala Gln
 20          25          30
Lys Gly Ile Tyr Cys Ile Gln Gln Phe Phe Thr Asn Pro Gly Asn Lys
 35          40          45
Leu Ala Lys Phe Val Gly Ala Thr Lys Ser Leu Asp Lys Cys Phe Lys
 50          55          60
Leu Ser Lys Ala Val Ser Asp Cys Val Val Gly Ser Leu Glu Glu Ala
 65          70          75          80
Gly Cys Thr Gly Asp Ala Leu Thr Ser Ala Arg Asn Ala Gln Gly Met
 85          90          95
Leu Lys Thr Thr Arg Glu Val Val Ala Leu Ala Asn Val Leu Asn Gly
100          105          110
Ala Val Pro Ser Ile Val Asn Ser Thr Gln Arg Cys Tyr Gln Tyr Thr
115          120          125
Arg Gln Ala Phe Glu Leu Gly Ser Lys Thr Lys Glu Arg Lys Thr Pro
130          135          140
Gly Glu Tyr Ser Lys Met Leu Leu Thr Arg Gly Asp Tyr Leu Leu Ala
145          150          155          160
Ala Ser Arg Glu Ala Cys Thr Ala Val Gly Ala Thr Thr Tyr Ser Ala
165          170          175
Thr Phe Gly Val Leu Arg Pro Leu Met Leu Ile Asn Lys Leu Thr Ala
180          185          190
Lys Pro Phe Leu Asp Lys Ala Thr Val Gly Asn Phe Gly Thr Ala Val
195          200          205
Ala Gly Ile Met Thr Ile Asn His Met Ala Gly Val Ala Gly Ala Val
210          215          220
Gly Gly Ile Ala Leu Glu Gln Lys Leu Phe Lys Arg Ala Lys Glu Ser
225          230          235          240
Leu Tyr Asn Glu Arg Cys Ala Leu Glu Asn Gln Gln Ser Gln Leu Ser
245          250          255
Gly Asp Val Ile Leu Ser Ala Glu Arg Ala Leu Arg Lys Glu His Val
260          265          270
Ala Thr Leu Lys Arg Asn Val Leu Thr Leu Leu Glu Lys Ala Leu Glu
275          280          285
Leu Val Val Asp Gly Val Lys Leu Ile Pro Leu Pro Ile Thr Val Ala
290          295          300
Cys Ser Ala Ala Ile Ser Gly Ala Leu Thr Ala Ala Ser Ala Gly Ile

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305                      310                      315                      320  
 Gly Leu Tyr Ser Ile Trp Gln Lys Thr Lys Ser Gly Lys  
                          325                      330

<210> 293  
 <211> 7  
 <212> DNA  
 <213> Chlamydia

<400> 293  
 tgcaatc

7

<210> 294  
 <211> 196  
 <212> PRT  
 <213> Chlamydia

<400> 294  
 Thr Met Gly Ser Leu Val Gly Arg Gln Ala Pro Asp Phe Ser Gly Lys  
                          5                      10                      15

Ala Val Val Cys Gly Glu Glu Lys Glu Ile Ser Leu Ala Asp Phe Arg  
                          20                      25                      30

Gly Lys Tyr Val Val Leu Phe Phe Tyr Pro Lys Asp Phe Thr Tyr Val  
                          35                      40                      45

Cys Pro Thr Glu Leu His Ala Phe Gln Asp Arg Leu Val Asp Phe Glu  
                          50                      55                      60

Glu His Gly Ala Val Val Leu Gly Cys Ser Val Asp Asp Ile Glu Thr  
                          65                      70                      75                      80

His Ser Arg Trp Leu Thr Val Ala Arg Asp Ala Gly Gly Ile Glu Gly  
                          85                      90                      95

Thr Glu Tyr Pro Leu Leu Ala Asp Pro Ser Phe Lys Ile Ser Glu Ala  
                          100                      105                      110

Phe Gly Val Leu Asn Pro Glu Gly Ser Leu Ala Leu Arg Ala Thr Phe  
                          115                      120                      125

Leu Ile Asp Lys His Gly Val Ile Arg His Ala Val Ile Asn Asp Leu  
                          130                      135                      140

Pro Leu Gly Arg Ser Ile Asp Glu Glu Leu Arg Ile Leu Asp Ser Leu  
                          145                      150                      155                      160

Ile Phe Phe Glu Asn His Gly Met Val Cys Pro Ala Asn Trp Arg Ser  
                          165                      170                      175

Gly Glu Arg Gly Met Val Pro Ser Glu Glu Gly Leu Lys Glu Tyr Phe  
                          180                      185                      190

Gln Thr Met Asp

662403440



Val Gln Gln Gly His Tyr Gln Asp Pro Arg Ala Ser Asp Tyr Asp Leu  
20 25 30

Pro Arg Ala Ser Asp Tyr Asp Leu Pro Arg Ser Pro Tyr Pro Thr Pro  
35 40 45

Pro Leu Pro Ser Arg Tyr Gln Leu Gln Asn Met Asp Val Glu Ala Gly  
50 55 60

Phe Arg Glu Ala Val Tyr Ala Ser Phe Val Ala Gly Met Tyr Asn Tyr  
65 70 75 80

Val Val Thr Gln Pro Gln Glu Arg Ile Pro Asn Ser Gln Gln Val Glu  
85 90 95

Gly Ile Leu Arg Asp Met Leu Thr Asn Gly Ser Gln Thr Phe Ser Asn  
100 105 110

Leu Met Gln Arg Trp Asp Arg Glu Val Asp Arg Glu  
115 120

<210> 297

<211> 488

<212> PRT

<213> Chlamydia

<400> 297

Lys Gly Ser Leu Pro Ile Leu Gly Pro Phe Leu Asn Gly Lys Met Gly  
5 10 15

Phe Trp Arg Thr Ser Ile Met Lys Met Asn Arg Ile Trp Leu Leu Leu  
20 25 30

Leu Thr Phe Ser Ser Ala Ile His Ser Pro Val Arg Gly Glu Ser Leu  
35 40 45

Val Cys Lys Asn Ala Leu Gln Asp Leu Ser Phe Leu Glu His Leu Leu  
50 55 60

Gln Val Lys Tyr Ala Pro Lys Thr Trp Lys Glu Gln Tyr Leu Gly Trp  
65 70 75 80

Asp Leu Val Gln Ser Ser Val Ser Ala Gln Gln Lys Leu Arg Thr Gln  
85 90 95

Glu Asn Pro Ser Thr Ser Phe Cys Gln Gln Val Leu Ala Asp Phe Ile  
100 105 110

Gly Gly Leu Asn Asp Phe His Ala Gly Val Thr Phe Phe Ala Ile Glu  
115 120 125

Ser Ala Tyr Leu Pro Tyr Thr Val Gln Lys Ser Ser Asp Gly Arg Phe  
130 135 140

Tyr Phe Val Asp Ile Met Thr Phe Ser Ser Glu Ile Arg Val Gly Asp  
 145 150 155 160  
 Glu Leu Leu Glu Val Asp Gly Ala Pro Val Gln Asp Val Leu Ala Thr  
 165 170 175  
 Leu Tyr Gly Ser Asn His Lys Gly Thr Ala Ala Glu Glu Ser Ala Ala  
 180 185 190  
 Leu Arg Thr Leu Phe Ser Arg Met Ala Ser Leu Gly His Lys Val Pro  
 195 200 205  
 Ser Gly Arg Thr Thr Leu Lys Ile Arg Arg Pro Phe Gly Thr Thr Arg  
 210 215 220  
 Glu Val Arg Val Lys Trp Arg Tyr Val Pro Glu Gly Val Gly Asp Leu  
 225 230 235 240  
 Ala Thr Ile Ala Pro Ser Ile Arg Ala Pro Gln Leu Gln Lys Ser Met  
 245 250 255  
 Arg Ser Phe Phe Pro Lys Lys Asp Asp Ala Phe His Arg Ser Ser Ser  
 260 265 270  
 Leu Phe Tyr Ser Pro Met Val Pro His Phe Trp Ala Glu Leu Arg Asn  
 275 280 285  
 His Tyr Ala Thr Ser Gly Leu Lys Ser Gly Tyr Asn Ile Gly Ser Thr  
 290 295 300  
 Asp Gly Phe Leu Pro Val Ile Gly Pro Val Ile Trp Glu Ser Glu Gly  
 305 310 315 320  
 Leu Phe Arg Ala Tyr Ile Ser Ser Val Thr Asp Gly Asp Gly Lys Ser  
 325 330 335  
 His Lys Val Gly Phe Leu Arg Ile Pro Thr Tyr Ser Trp Gln Asp Met  
 340 345 350  
 Glu Asp Phe Asp Pro Ser Gly Pro Pro Pro Trp Glu Glu Phe Ala Lys  
 355 360 365  
 Ile Ile Gln Val Phe Ser Ser Asn Thr Glu Ala Leu Ile Ile Asp Gln  
 370 375 380  
 Thr Asn Asn Pro Gly Gly Ser Val Leu Tyr Leu Tyr Ala Leu Leu Ser  
 385 390 395 400  
 Met Leu Thr Asp Arg Pro Leu Glu Leu Pro Lys His Arg Met Ile Leu  
 405 410 415  
 Thr Gln Asp Glu Val Val Asp Ala Leu Asp Trp Leu Thr Leu Leu Glu  
 420 425 430  
 Asn Val Asp Thr Asn Val Glu Ser Arg Leu Ala Leu Gly Asp Asn Met

435                      440                      445  
 Glu Gly Tyr Thr Val Asp Leu Gln Val Ala Glu Tyr Leu Lys Ser Phe  
     450                      455                      460  
 Gly Arg Gln Val Leu Asn Cys Trp Ser Lys Gly Asp Ile Glu Leu Ser  
     465                      470                      475                      480  
 Thr Pro Ile Pro Leu Phe Gly Phe  
                     485

<210> 298  
 <211> 140  
 <212> PRT  
 <213> Chlamydia

<400> 298  
 Arg Ile Asp Ile Ser Ser Val Thr Phe Phe Ile Gly Ile Leu Leu Ala  
                     5                      10                      15  
 Val Asn Ala Leu Thr Tyr Ser His Val Leu Arg Asp Leu Ser Val Ser  
                     20                      25                      30  
 Met Asp Ala Leu Phe Ser Arg Asn Thr Leu Ala Val Leu Leu Gly Leu  
                     35                      40                      45  
 Val Ser Ser Val Leu Asp Asn Val Pro Leu Val Ala Ala Thr Ile Gly  
                     50                      55                      60  
 Met Tyr Asp Leu Pro Met Asn Asp Pro Leu Trp Lys Leu Ile Ala Tyr  
     65                      70                      75                      80  
 Thr Ala Gly Thr Gly Gly Ser Ile Leu Ile Ile Gly Ser Ala Ala Gly  
                     85                      90                      95  
 Val Ala Tyr Met Gly Met Glu Lys Val Ser Phe Gly Trp Tyr Val Lys  
                     100                      105                      110  
 His Ala Ser Trp Ile Ala Leu Ala Ser Tyr Phe Gly Gly Leu Ala Val  
                     115                      120                      125  
 Tyr Phe Leu Met Glu Asn Cys Val Asn Leu Phe Val  
     130                      135                      140

<210> 299  
 <211> 361  
 <212> PRT  
 <213> Chlamydia

<400> 299  
 His Gln Glu Ile Ala Asp Ser Pro Leu Val Lys Lys Ala Glu Glu Gln  
                     5                      10                      15

Ile Asn Gln Ala Gln Gln Asp Ile Gln Thr Ile Thr Pro Ser Gly Leu  
 20 25 30  
 Asp Ile Pro Ile Val Gly Pro Ser Gly Ser Ala Ala Ser Ala Gly Ser  
 35 40 45  
 Ala Ala Gly Ala Leu Lys Ser Ser Asn Asn Ser Gly Arg Ile Ser Leu  
 50 55 60  
 Leu Leu Asp Asp Val Asp Asn Glu Met Ala Ala Ile Ala Met Gln Gly  
 65 70 75 80  
 Phe Arg Ser Met Ile Glu Gln Phe Asn Val Asn Asn Pro Ala Thr Ala  
 85 90 95  
 Lys Glu Leu Gln Ala Met Glu Ala Gln Leu Thr Ala Met Ser Asp Gln  
 100 105 110  
 Leu Val Gly Ala Asp Gly Glu Leu Pro Ala Glu Ile Gln Ala Ile Lys  
 115 120 125  
 Asp Ala Leu Ala Gln Ala Leu Lys Gln Pro Ser Ala Asp Gly Leu Ala  
 130 135 140  
 Thr Ala Met Gly Gln Val Ala Phe Ala Ala Ala Lys Val Gly Gly Gly  
 145 150 155 160  
 Ser Ala Gly Thr Ala Gly Thr Val Gln Met Asn Val Lys Gln Leu Tyr  
 165 170 175  
 Lys Thr Ala Phe Ser Ser Thr Ser Ser Ser Tyr Ala Ala Ala Leu  
 180 185 190  
 Ser Asp Gly Tyr Ser Ala Tyr Lys Thr Leu Asn Ser Leu Tyr Ser Glu  
 195 200 205  
 Ser Arg Ser Gly Val Gln Ser Ala Ile Ser Gln Thr Ala Asn Pro Ala  
 210 215 220  
 Leu Ser Arg Ser Val Ser Arg Ser Gly Ile Glu Ser Gln Gly Arg Ser  
 225 230 235 240  
 Ala Asp Ala Ser Gln Arg Ala Ala Glu Thr Ile Val Arg Asp Ser Gln  
 245 250 255  
 Thr Leu Gly Asp Val Tyr Ser Arg Leu Gln Val Leu Asp Ser Leu Met  
 260 265 270  
 Ser Thr Ile Val Ser Asn Pro Gln Ala Asn Gln Glu Glu Ile Met Gln  
 275 280 285  
 Lys Leu Thr Ala Ser Ile Ser Lys Ala Pro Gln Phe Gly Tyr Pro Ala  
 290 295 300  
 Val Gln Asn Ser Val Asp Ser Leu Gln Lys Phe Ala Ala Gln Leu Glu

305                      310                      315                      320  
 Arg Glu Phe Val Asp Gly Glu Arg Ser Leu Ala Glu Ser Gln Glu Asn  
                                  325                      330                      335  
 Ala Phe Arg Lys Gln Pro Ala Phe Ile Gln Gln Val Leu Val Asn Ile  
                                  340                      345                      350  
 Ala Ser Leu Phe Ser Gly Tyr Leu Ser  
                                  355                      360

<210> 300  
 <211> 207  
 <212> PRT  
 <213> Chlamydia

<400> 300  
 Ser Ser Lys Ile Val Ser Leu Cys Glu Gly Ala Val Ala Asp Ala Arg  
                                  5                      10                      15  
 Met Cys Lys Ala Glu Leu Ile Lys Lys Glu Ala Asp Ala Tyr Leu Phe  
                                  20                      25                      30  
 Cys Glu Lys Ser Gly Ile Tyr Leu Thr Lys Lys Glu Gly Ile Leu Ile  
                                  35                      40                      45  
 Pro Ser Ala Gly Ile Asp Glu Ser Asn Thr Asp Gln Pro Phe Val Leu  
                                  50                      55                      60  
 Tyr Pro Lys Asp Ile Leu Gly Ser Cys Asn Arg Ile Gly Glu Trp Leu  
                                  65                      70                      75                      80  
 Arg Asn Tyr Phe Arg Val Lys Glu Leu Gly Val Ile Ile Thr Asp Ser  
                                  85                      90                      95  
 His Thr Thr Pro Met Arg Arg Gly Val Leu Gly Ile Gly Leu Cys Trp  
                                  100                      105                      110  
 Tyr Gly Phe Ser Pro Leu His Asn Tyr Ile Gly Ser Leu Asp Cys Phe  
                                  115                      120                      125  
 Gly Arg Pro Leu Gln Met Thr Gln Ser Asn Leu Val Asp Ala Leu Ala  
                                  130                      135                      140  
 Val Ala Ala Val Val Cys Met Gly Glu Gly Asn Glu Gln Thr Pro Leu  
                                  145                      150                      155                      160  
 Ala Val Ile Glu Gln Ala Pro Asn Met Val Tyr His Ser Tyr Pro Thr  
                                  165                      170                      175  
 Ser Arg Glu Glu Tyr Cys Ser Leu Arg Ile Asp Glu Thr Glu Asp Leu  
                                  180                      185                      190  
 Tyr Gly Pro Phe Leu Gln Ala Val Thr Trp Ser Gln Glu Lys Lys

205

<400> 301

<400> 302

Met Thr Lys His Gly Lys Arg Ile Arg Gly Ile Gln Glu Thr Tyr Asp  
5 10 15

Leu Ala Lys Ser Tyr Ser Leu Gly Glu Ala Ile Asp Ile Leu Lys Gln  
20 25 30

Cys Pro Thr Val Arg Phe Asp Gln Thr Val Asp Val Ser Val Lys Leu  
35 40 45

Gly Ile Asp Pro Arg Lys Ser Asp Gln Gln Ile Arg Gly Ser Val Ser  
50 55 60

Leu Pro His Gly Thr Gly Lys Val Leu Arg Ile Leu Val Phe Ala Ala  
65 70 75 80

Gly Asp Lys Ala Ala Glu Ala Ile Glu Ala Gly Ala Asp Phe Val Gly  
85 90 95

Ser Asp Asp Leu Val Glu Lys Ile Lys Gly Gly Trp Val Asp Phe Asp  
100 105 110

Val Ala Val Ala Thr Pro Asp Met Met Arg Glu Val Gly Lys Leu Gly  
115 120 125

Lys Val Leu Gly Pro Arg Asn Leu Met Pro Thr Pro Lys Ala Gly Thr  
130 135 140

Val Thr Thr Asp Val Val Lys Thr Ile Ala Glu Leu Arg Lys Gly Lys  
145 150 155 160

Ile Glu Phe Lys Ala Asp Arg Ala Gly Val Cys Asn Val Gly Val Ala  
165 170 175

Lys Leu Ser Phe Asp Ser Ala Gln Ile Lys Glu Asn Val Glu Ala Leu  
180 185 190

Cys Ala Ala Leu Val Lys Ala Lys Pro Ala Thr Ala Lys Gly Gln Tyr  
195 200 205

Leu Val Asn Phe Thr Ile Ser Ser Thr Met Gly Pro Gly Val Thr Val  
210 215 220

Asp Thr Arg Glu Leu Ile Ala Leu  
225 230

<210> 303

<211> 238

<212> PRT

<213> chlamydia

<400> 303

Ile Asn Ser Lys Leu Glu Thr Lys Asn Leu Ile Tyr Leu Lys Leu Lys  
5 10 15

Ile Lys Lys Ser Phe Lys Met Gly Asn Ser Gly Phe Tyr Leu Tyr Asn  
20 25 30

Thr	Gln	Asn	Cys	Val	Phe	Ala	Asp	Asn	Ile	Lys	Val	Gly	Gln	Met	Thr	
		35					40					45				
Glu	Pro	Leu	Lys	Asp	Gln	Gln	Ile	Ile	Leu	Gly	Thr	Thr	Ser	Thr	Pro	
	50					55					60					
Val	Ala	Ala	Lys	Met	Thr	Ala	Ser	Asp	Gly	Ile	Ser	Leu	Thr	Val	Ser	
65					70					75					80	
Asn	Asn	Pro	Ser	Thr	Asn	Ala	Ser	Ile	Thr	Ile	Gly	Leu	Asp	Ala	Glu	
				85					90					95		
Lys	Ala	Tyr	Gln	Leu	Ile	Leu	Glu	Lys	Leu	Gly	Asp	Gln	Ile	Leu	Gly	
			100					105					110			
Gly	Ile	Ala	Asp	Thr	Ile	Val	Asp	Ser	Thr	Val	Gln	Asp	Ile	Leu	Asp	
	115						120					125				
Lys	Ile	Thr	Thr	Asp	Pro	Ser	Leu	Gly	Leu	Leu	Lys	Ala	Phe	Asn	Asn	
	130					135					140					
Phe	Pro	Ile	Thr	Asn	Lys	Ile	Gln	Cys	Asn	Gly	Leu	Phe	Thr	Pro	Arg	
145					150					155					160	
Asn	Ile	Glu	Thr	Leu	Leu	Gly	Gly	Thr	Glu	Ile	Gly	Lys	Phe	Thr	Val	
				165					170					175		
Thr	Pro	Lys	Ser	Ser	Gly	Ser	Met	Phe	Leu	Val	Ser	Ala	Asp	Ile	Ile	
			180					185					190			
Ala	Ser	Arg	Met	Glu	Gly	Gly	Val	Val	Leu	Ala	Leu	Val	Arg	Glu	Gly	
		195					200					205				
Asp	Ser	Lys	Pro	Tyr	Ala	Ile	Ser	Tyr	Gly	Tyr	Ser	Ser	Gly	Val	Pro	
	210					215					220					
Asn	Leu	Cys	Ser	Leu	Arg	Thr	Arg	Ile	Ile	Asn	Thr	Gly	Leu			
225					230					235						